THIS WEEK'S National Petroleum NEWS

Coming Meetings

Oil States Advisory Committee, Denver, Col., Aug. 10.

National Aeronautic Meeting Society of Automotive Engineers, Cleveland, O. Sept. 1, 2, 3.

North American Gasoline Tax Conference, Denver, Col., Sept. 9, 10, 11.

Kentucky Petroleum Marketers Association, Louisville, Ky., Sept. 9.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 16, 17, 18.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Houston, Tex., Oct. 2, 3.

National Safety Council, Chicago, Oct. 12 to 16.

American Petroleum Institute annual meeting, Stevens Hotel, Chicago, Nov. 10, 11, 12.

Third International Conference on Bituminous Coal, at Carnegie Institute of Technology, Schenley, Park, Pittsburgh, Pa., Nov. 16, to 21.

Geological Society of America, Mayo Hotel, Tulsa, Dec. 28 to 31.

American Association of Petroleum Geologists, Oklahoma City, Okla., March 17, 18, 19, 1932.

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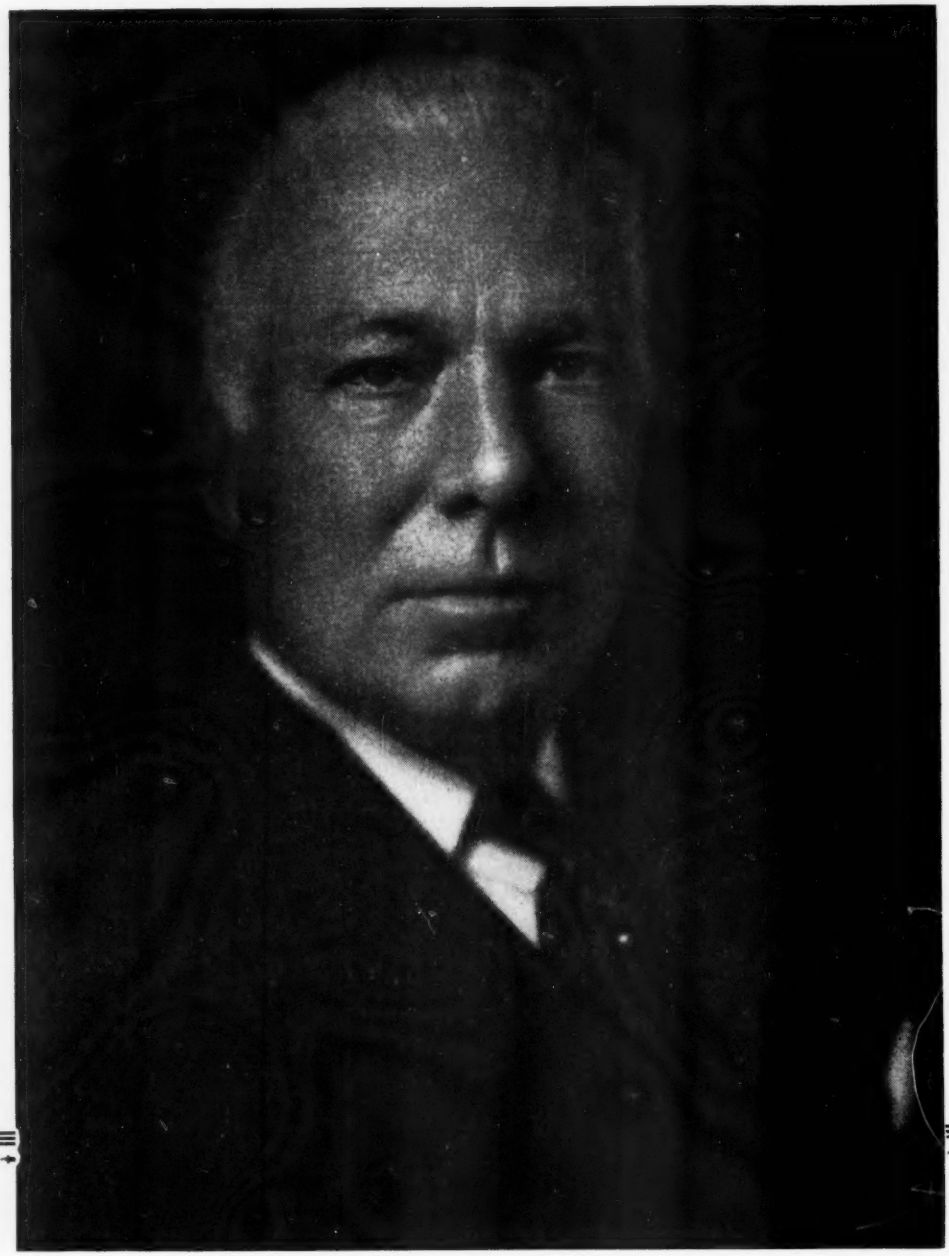

MEET the gentleman who put a block letter B inside a square and originated the trademark "Be Square" which has become familiar to motorists over the country as a symbol of quality in petroleum products.

He is Robert Law, recently elected chairman of the board of the Barnsdall Corp. He developed the trademark as representing the dominant element in the character of Theodore N. Barnsdall, founder of the interests that bore his name.

Mr. Law was the organizer of the Barnsdall Corp., upon the death of Mr. Barnsdall in 1917. He is its largest stockholder and has served as its president and even chairman previously. He is a westerner, born in North Platte, Nebr., and was treasurer of the Colorado Midland Railroad until he joined Mr. Barnsdall in the oil business in 1906.

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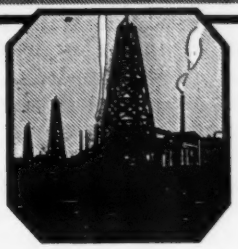

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Anti-Knock Gas from Pennsylvania Crude Only a Step in a New Refining Era

By Arch L. Foster
N. P. N. STAFF WRITER

CLEVELAND, July 7

FEW outside the "refining fraternity" realize the magnitude of the revolution now taking place in petroleum refining processes and equipment.

Especially is this true in methods of manufacture of gasoline, to produce constantly better anti-knock fuels by straight refining and cracking.

This development has already proceeded to the point that Pennsylvania gas oil and fuel oil, notoriously poor in natural anti-knock qualities, is now being cracked in three plants, into as high as 80 per cent recovery of finished gasoline, with knock rating of from 70 to 75 Octane Number.

Over the last eighteen months general conditions in the oil industry and in the country in general have combined to give added impetus to progress in all refining processes, especially to methods for production of motor fuel more carefully prepared to satisfy the new demands of the consumer.

The introduction of tetraethyl lead as an anti-detonant gave the automotive engineer the first important practical boost over the wall of detonation to permit the increase of compression ratios and with that the power efficiency of his engine. Benzene, or benzol, from coal tar, had been employed for this purpose in some measure, but the supply of this material is limited and the cost relatively high in many localities.

Some cracking of petroleum hydrocarbons was being done previous to this time, but the use of the pressure still as a means of improving gasoline quality was little understood, and cracked gasoline was in most cases in "bad odor" physically and commercially.

The remarkable strides made during the last five or six years by technologists in development of cracking processes have brought the industry to what appears to be a new epoch in motor fuel manufacture. The controlling factors which affect the properties of the decomposed hydrocarbons have been more thoroughly analyzed, and means have been found to produce molecules of the gasoline distillation range which are more aromatic in nature, possessing much higher anti-knock properties than those produced during the earlier stages of cracking development.

Present depressed conditions in the business world have helped to accentuate the trend toward more efficient fuels. Higher anti-knock gasoline may be obtained in either of two ways, or a combination of the two—use of tetraethyl lead, or by cracking heavy petroleum fractions. Tremendous impetus has been given to cracking by the necessity for improving gasolines without extra tariff to the ultimate consumer.

Within a few months the comparative rejuvenation of cracking processes has suddenly become the most outstanding development in the entire refining industry. It may be safely stated that not a single cracking process of any importance but has been revamped recently, either in design of apparatus, or in methods of operation or both.

This revamping was not undertaken all at once, nor have its results come instantaneously. It, too, has been a gradual progression, but the speed with which present day achievements have been accomplished, as compared to the advancement attained during earlier periods of time, make it appear to the casual observer that cracking for the production of high anti-

knock gasolines has been almost an over-night development.

As was to be expected, the improvement in knock quality of gasolines has advanced farther, so far as the consumer is concerned, along the Atlantic seaboard and in the territory east of the Mississippi and north of the Ohio. One of the most recent innovations has been the re-arrangement of plant design and operating methods by the Standard Oil Co. of Ohio. This company this spring brought out its new high anti-knock, regular priced motor fuel. Immediately several other companies, Sun, Gulf, Pure and others began marketing a motor fuel in the Ohio area with knock ratings in the neighborhood of 70 Octane Number or higher. Similar conditions exist on the Atlantic coast, and have so existed for some months. The handwriting is on the wall. A motor fuel of 70 Octane Number is a good anti-knock fuel.

Apparently this demand on the part of the consumer for high anti-knock fuel has not reached the proportions in the south and southwest that it has in the north and east. California has long had the advantage of the rest of the country on knock ratings of gasoline, on account of the nature of the crudes refined there. The pressure in these areas further west is being more and more felt and refiners are responding by instituting revamping and planning rebuilding programs to meet the situation all recognize as being at hand.

PROBABLY the best instance of this re-arrangement to meet new conditions and one of the best indications of renewed expansion in building and expansion of refinery facilities is in Pennsylvania. Pennsylvania gasoline has long been known as low in anti-knock rating, and those refiners have been concerned for some time as to the best method for remedying the situation to enable them to produce a suitable gasoline to meet modern demands.

Recently they have decided that the solution lies in cracking their "fuel oil" or gas oil, and in "re-forming" the heavy ends of the naphtha from Pennsylvania crude to produce a higher anti-detonation gasoline.

A unique arrangement for obtaining cracking facilities under conditions which will be economical for all concerned, has been recently completed in the Oil City area. Four of the smaller companies, none of which have enough charging stock from their own plants to warrant the installation of even a small cracking unit, have combined in the building and operation of a single 2400-barrel Dubbs still.

The unit is built at the Pennzoil plant, near Oil City, and charging stock is gathered from the other co-operating plants by a four-inch pipeline which carries the gas oil to the cracking plant. The various companies represented are to receive finished gasoline in proportion to the charging stock furnished, it understood.

UNITS, similar in design according to dependable information, have been completed at the refineries of the Emlenton plant at Emlenton, and that of the Ohio Valley Refining Co. at St. Mary's, West Va. All three units are in operation according to reports, and the results obtained sound interesting. Among other innovations in the design is included a fractionating tower as a part of the unit, a departure new in Dubbs annals. According to reliable information, as high as 80 per cent of finished gasoline, with knock ratings as high as 70 to 75 octane number, is being produced from gas oil charging stocks. Re-forming of heavy naphtha is also being done, or has been done, though to what extent cannot now be determined.

In addition to these newest units, other processes are being, or have recently been installed. De Florez stills have been erected within the year at Philadelphia in two plants, at Pittsburgh, and in New Jersey. These units operate at high temperatures and pressures, presumably in a combination of liquid-vapor phase, producing gasoline of very high anti-knock rating, according to information obtained, and in fact generally known to the industry.

Just a few days ago announcement was made that another Dubbs unit is contracted for by the Kendall Refining Co of Bradford, Pa. This unit is to be of the new type similar to those referred to above, and is to replace two older units of the same process which have been, or are soon to be, shut down to make way for the newer equipment. Construction of this unit is to be undertaken at once, it is understood.

Other information from reliable sources show that several companies in this area are negotiating with designers of different cracking processes with a view to early construction of plants for production of better motor fuels.

Vapor Recovery Plants Increasing in Number

Significant also is the increase in the number of vapor recovery plants just installed, in course of construction or under contract for immediate erection. Also a considerable number of debutanizing units and stabilizers are under construction or have recently been completed and are in operation.

The largest project reported recently is that of Imperial Oil Ltd., of Toronto, Canada, which last week announced contracts for the expenditure of $1,000,000 for erection of a combined absorption vapor recovery plant, a stabilizing and a debutanizing unit at its Sarnia, Ont., refinery. Construction is to begin at once and the plant will be used of course to stabilize and debutanize pressure distillate from tube and tank cracking coils, for the recovery and stabilization of light naphtha recovered from refinery gases.

KENDALL REFINING CO., Bradford, Pa., recently completed a vapor recovery and stabilizing plant. Presumably this plant was designed to handle both the normal refinery gas and to stabilize also the pressure distillate from the cracking units then in operation, with provision for the distillate from the new plant just announced.

A new stabilizer was recently put into operation by the White Star Refining Co., Detroit. Emlenton Refining Co., Emlenton, Pa., has just let the contract for a plant which was prompted no doubt by the in-

(*Continued on Page* 22)

The Editors' Viewpoint

Constructive Forces Are Gathering Strength

TAKING stock of things generally in the oil industry—at the turn of the half year—it would seem that there are several factors working toward improvement, which may make themselves evident in the latter part of the year.

The strongest of these factors are economic conditions which are bound to exert their influence as long as the fundamental forces which control business make themselves felt.

The force of their influence can be offset, or held back from making itself felt, by such factors as the extreme business selfishness and shortsightedness of members of one branch of the industry, or even of a group of operators in particular territories, such as in the new East Texas fields.

In spite of this, however, the sounder general operating conditions which the industry at large has adopted within the past two years or so continue to gather force and will make themselves felt in time.

In fact, the general business situation itself is corrective of certain conditions which led to unwarranted expansion in the oil industry in years past. As evidence, witness East Texas, where the boom which threatened the stability of the entire industry is flattening itself out through the lack of new capital, on the part of the new operators principally, to carry on development work.

Promises to pay and payment in oil are good for a time. With a higher price for oil they would be good collateral for a longer period; but, sooner or later, in the flush development period of a new field, hard money has to be put in, by the millions. That kind of money is hard to get today, even by the gentry who use Uncle Sam's mails to broadcast their promises of a fortune overnight to the unwary investor.

Those millions have been forthcoming in the past. They have been poured into our new oil fields at a greater volume than will ever be taken out, in many cases. But things are different in the new East Texas fields today.

To get back to the industry as a whole, the general statistical situation, as regards supply and stocks of both crude and gasoline is good at the turn of the half year, and consumption of gasoline is as good as has been anticipated, if not better. Our eyes have been so constantly on East Texas, because of its threat of a vast surplus crude supply, that we have disregarded the fact that, speaking generally for the producing and refining branches of the industry, they have gone along turning out about current needs for crude and gasoline.

Total gasoline stocks for the country, at the first of July, stand at around 44,000,000 barrels. This is just about 6,000,000 barrels less gasoline than we carried in storage a year ago.

The committee on economics of the Federal Oil Conservation Board, in its estimate of reasonable refinery operations for the period from April 1 to Oct. 1, placed gasoline stocks on this suggested basis of operations at 41,600,000 barrels at the end of June.

While the refining industry has missed this mark by quite a bit it is far better off than a year ago, in its load of stocks to carry. Also it still has a good chance of bringing this load of stocks down to the figure the oil board's economists put as desirable for the refining industry to start its winter period with—30,000,000 barrels on Sept. 30.

Gasoline stocks at the end of June a year ago were 50,212,000 barrels. They were reduced to 38,242,000 barrels on Sept. 30, 1930, a reduction of about 12,000,000 barrels. This year, to accomplish the desired result, the amount of the reduction during July, August and September will have to be about 14,000,000 barrels.

The industry has likewise reduced its inventories of crude oil from 533,500,000 barrels at the end of May, 1930—the figure for June not yet being available—to 495,122,000 barrels at the end of May this year. This is a reduction of over 38,000,000 barrels.

Bear in mind that it was made by the industry in a year in which it struggled with the two fields of perhaps the largest potential production that have yet come to light, Kettleman Hills, in California, and East Texas, and one cannot help but be impressed with what a sound basis of production of crude, under a voluntary proration program, is doing for the industry.

THE marketing branch of the industry is also putting its house in order. The reinstatement of the code is a great impetus to sounder business practice in the distribution of petroleum products. Along with that there is a tendency to narrow the margin and to control to a greater degree the giving of equipment to dealers, both of which practices have led to price cutting by the dealer and started many a demoralized local market.

Oil companies generally have reduced their inventories to the basis of present low market prices, one reason why first and second quarter statements made such a relatively poor showing. In other ways they have trimmed ship and are ready to operate in the future on a sounder basis than before.

Lack of acceptance of proration of crude production in East Texas continues the dark cloud on the horizon; but forces are gathering strength meantime that may dispel its influence, in good part before the year is over.

Anti-Knock Gas

(*Continued from Page* 20)

stallation of the new design of Dubbs plant just placed in operation there.

Producers and Refiners Corp. have let the contract for a vapor recovery and pressure distillate stabilizer plant in its Tulsa plant. The president of one of the best known engineering firms in the country says that, in addition to two plants that firm is now erecting, they are also making up estimates on "at least six other vapor recovery-stabilizer - debutanizer plants for the different companies throughout the country," which will undoubtedly be built in the near future.

Another engineering firm of national activity recently enumerated seven vapor recovery and stabilizer plants it is building for different refineries, varying in size from the largest unit of the type yet constructed to the small 500-barrel units in the topping-cracking plant.

A third firm states that contracts which had been held in abeyance for some months, pending a turn in conditions, have been again taken up, and active work is under way at present.

In other refining departments new developments are being announced. The newest is brought out in the advertising by the Sun Oil Co. which a few days ago announced and placed on the market its "mercury refined" lubricating oil. Details of this process have not been made public, but it is understood that mercury vapor from a boiler is used as the heat carrying medium instead of the combustion gases from the furnace, as is conventionally used in distillation. The claim is that the distillate is produced with less decomposition and less damage than under older distillation conditions.

The refiner has been wont to believe that during these last few years the technology of the industry has reached a high level, which is undoubtedly true. But with the future developments that are now apparent or definitely indicated, the previous levels of the science and art of refining will appear low indeed to the technologists who will be directing the operation of refining processes in the next few years.

Pennsylvania Anti-Knock Gas Now Sold in Volume

CLEVELAND, July 7

APPROXIMATELY 6,000,000 gallons of gasoline of high anti-knock property is coming monthly from refineries in the Pennsylvania crude oil field, exclusive of the output of such gasoline by the two refineries of the Atlantic Refining Co. in western Pennsylvania, the Parkersburg, W. Va., plant of Standard Oil Co. of New Jersey, and the Olean, N. Y., plant of Vacuum Oil Co.

This anti-knock gasoline is also exclusive of the Ethyl gasoline made by Pennsylvania field refiners.

It is probable that the volume of anti-knock gasoline from refineries in the Pennsylvania field will be increased to more than 7,000,000 gallons a month by the first of 1932, when one large cracking plant will be in full commercial operation and another, recently contracted for, will be completed.

The 6,000,000 gallons of anti-knock fuel which is retailing at no premium, is coming from seven refining companies as a result of a relatively recent modernization program.

Cracking units have been built at the plants of the Ohio Valley Refining Co., St. Mary's, W. Va., and the Emlenton Refining Co., Emlenton, Pa., within the last year, Kendall Refining Co., Bradford, Pa., has had a large cracker in operation several years and recently let a contract for another modernized unit to replace the older type. Pennzoil Co., Oil City, Pa., has had a large cracking unit in operation several years and is operating the jointly owned cracking plant at Oil City which recently was completed but is not yet in full commercial production. Others participating in the Oil City plant are the Wolverine-Empire Refining Co., Continental Refining Co. and Independent Refining Co.

Cracked gasoline is being blended with straight run Pennsylvania gasoline by most of these refiners and the anti-knock product is usually sold under a brand name through refinery owned or controlled outlets. Some of the anti-knock gasoline is sold on the open market at a premium of ¾ to 1¼ cents a gallon, the difference in premium depending on differences in octane ratings and freight rates to the districts in which it is marketed. Cracking plants have virtually eliminated the straight run gasoline problem at this group of plants.

Most of the new gasoline is blended to give an octane rating of 65 to 68 on the Ethyl Gasoline Corp. standard engine, but some of it has an even higher rating when tested in that manner.

The new Pennsylvania gasoline is available to motorists in western New York, western Pennsylvania and eastern and southeastern Ohio.

The gasoline is sold both white and colored. Kendall is coloring its Kendall Balanced Gas purple. Continental's Correco is yellow. Wolverine-Empire's Empire Knockproof Gas is green. Pennzoil's Pennzip is green. Ohio Valley and Emlenton do not color their product which bears the brand name Sterling, the name of the affiliated marketing company for those two refineries.

When sold on the open market this gasoline has to meet the competition chiefly of the Atlantic seaboard markets, one refiner said. This competition diminishes from the east to the west of the Pennsylvania refiners' marketing territory and is virtually nil in Ohio. In Ohio, where motorists the last year or so have been educated to expect motor fuels of high anti-knock rating, the Pennsylvania plants are able to get the best premium for their new gasoline. However, contracts with controlled or affiliated outlets are based mainly on retail prices and not on open market prices.

250,000 Barrels is Maximum Daily Output For East Texas by New State Order

By Paul Wagner

N. P. N. STAFF WRITER

HOUSTON, July 3

CRUDE oil proration allotments are distributed equally to 20-acre producing units, each at approximately 300 barrels daily, in the Texas Railroad Commission's new curtailment order fixing the maximum allowable production for the East Texas field at 250,000 barrels daily.

Provision is made for exploiting two or more units from a single well, at the option of the owner, but the commission holds that in no event shall such production exceed 750 barrels daily.

Between 800 and 850 units are affected in the new order, issued July 3, but retroactive to July 2, which was issued for a three months term. The commission so worded its order, however, that by modifications or changes after Aug. 1 it may set up a different total allowable than the 250,000 barrels now scheduled.

The present order takes the place of the May-June limitation of 160,000 barrels daily, which was never observed. Field statistics show 1057 wells in East Texas producing 351,957 barrels daily average, July 2, compared with 359,700 barrels a week earlier and 371,350 barrels the middle of June.

In discarding for East Texas the well potential basis used in other fields in the state for determining production allowables under proration, the commission gave Sabine Uplift region non-conformists an opportunity of showing their good faith in demands for a well or unit allowance plan.

Of the 23 known proration violators at the end of June, the commission had been told that 19 described themselves as willing to observe orders based on a well or unit allowance plan.

"As a basis for better enforcement of the common purchaser law," the commission said in its order, "only the production offered for market, as allowed by the order, is to be considered in determining ratable takings by pipeline carriers."

ESTIMATED production from the East Texas fields showed a small decline for the week ended July 1, compared to that ended June 24. The totals were 363,291 barrels against 364,581.

The number of producing wells during that week increased from 975 to 1094.

As of June 27, there were 574 wells drilling within the proved area of the field, a loss of three from the report of June 20.

In addition, the commission strengthened its order by inclusion of a section which prohibits all purchasers from buying, transporting or handling oil produced in excess of the daily allowable as set by the order for each unit or fractional unit.

The order says that, irrespective of the number of wells on a unit or fractional unit, the daily allowance thereon shall not be more than 750 barrels, and "such additional allowable as may be permitted hereunder shall be taken from wells upon such unit or fractional unit so as to avoid unequal withdrawals against offset wells."

Fractional units, which shall be created only when there is insufficient acreage in a tract to constitute a full unit of more than 10 acres and less than 20, shall be treated as a full unit, and a fractional unit of less than 10 acres shall be treated as one-half unit, under the order.

Not more than one fractional unit shall be created from any one lease, except where any tracts in the lease are not contiguous, in which case each non-contiguous tract shall be treated as a separate tract for determining the number of units. The units will be calculated on the basis of ownership April 29, date of the last order affecting the East Texas field.

The order provides against excessive storage of oil over the amount reasonably required in production, transportation and refining on the grounds that this constitutes unnecessary waste.

Recognizing testimony presented at its June 29 hearing regarding salt water hazards in East Texas, the commission injected a clause in its order prohibiting wells from being drilled more than 25 feet into the producing sand, or within 10 feet of the water table back of the oil in the East Texas underground reservoir.

Governor Sterling announced frankly that he did not expect observance of the railroad commission's orders and went ahead with plans for calling a special session of the legislature to enact a statute strengthening the state's proration powers.

The governor was described as favoring a new commission to have jurisdiction over oil, gas and natural resources exclusively, in addition to seeking enforceable laws. Included in legislation would be a statutory provision to require issuance of injunctions only after court hearings, doing away with the present condition whereunder the filing of a suit automatically stops penalties for violation of the conservation law.

What the East Texans Are Getting Out of the Oil Boom

By Lawrence E. Smith

N. P. N. STAFF WRITER

TYLER, Tex., July 3 A FEW less than 50,000 persons—48,219, to be exact—were counted in the 1930 census-taking in Gregg and Rusk counties, in which are situated most of the proved acreage of the East Texas oil fields.

That figures about 37¼ persons to each of the 1295 square miles embraced within these counties. It is a respectable showing for any part of the southwest, and is a much greater density of population than most of the rest of Texas.

Smith county, which contains a little of the south end of the field, has nearly 58 persons per square mile. This is owing to its containing Tyler, the chief town of the region. Upsher county, with some of the north end of the field and possibilities of further extension, contains 37 persons per square mile.

It is evident, merely from a recital of the figures, that many thousands of persons were touched, although in many cases only remotely, by the oil development which began to get its momentum late in 1930.

And, while the coming of the drill has spelled tragedy to many persons in the oil industry through the release of a flood of oil that broke the market to a depression level never previously known since the industry became the vital thing it is in American life, it has meant release from the bondage of debt to hundreds who owned the land.

The money paid for leases was pretty well scattered, as few of the farms are large, so the distribution of wealth was about as even as is ever found in an oil country. Few got large sums; many received enough to wipe the slate clean of the record of bad crops and low prices for farm products.

"I believe the first thing practically every farmer did after getting money for a lease was pay off his debts at the bank and the store," said an attorney who has been identified with East Texas for some 20 years.

"It has put a new face on things in the community. The banks were loaded down with farm paper on which there was a poor chance to collect and every merchant had more than his share of accounts that would soon have to be written off. Enough money has been put into circulation around this district to make it look as though we will all pull through in good shape."

The next thing most of them did was buy a car, if they didn't already own one. The negroes particularly, caught up with their car buying.

The equitable distribution of the money is indicated in the type of cars which went out to these little farms. Fords and Chevrolets are in the majority.

To the great credit of most of the East Texas landowners it can be said that they didn't regard this windfall as something which would support them all their lives.

They went on with their farming. It is well that they did so, for the flood of dollars has become merely a slight drizzle. And the feeling is growing among the farmers that they are disposing of their oil resources at a rate and a price that will yield them, for the future, nothing but memories of what they should have had.

Unfortunately, not all of the money received was put to wise use. It is a well known failing of a farmer, no matter where he is, to believe that somewhere else there are much greener pastures—land where the rainfall is always dependable and the crops large and profitable.

So promoters of Rio Grande valley land have come among the East Texas landowners and sold them acreage that would grown anything—grapefruit as big as washtubs, melons, alfalfa. The price was $500 per acre.

Some of the buyers are back talking to lawyers and there will be some suits to set aside the purchase on the ground of misrepresentation. Quite a lot of the land was really worth about $50 per acre.

A recent compilation, as close to the actual figures as can be made, shows that 122,000 acres in the field brought bonuses to the farmers of $24,537,850.

That is a large amount of money to turn loose in a community of this size. It amounts to $24 per capita in a population of around 125,000 people.

To narrow it down more closely to the actual recipients of the money, it means about $201 per acre. The smallest of the landowners got several hundred dollars.

Of course, there were many transactions where the farmer took his pay in oil to be produced, getting a much higher royalty than the customary one-eighth, and in many and many a case he hasn't realized much, if anything, even though a well has been drilled on his land.

The community has benefitted in other ways. Local labor has been put at work. The piney woods of the district are full of little sawmills, most of them shut down at the time the development campaign set in. The demand for cheap derricks put them into commission again.

There were pipelines to be laid, rights-of-way to be cleared, ditching, teaming, road construction. Farmers in the region profited by this labor de-

mand. In no oil field of recent years has there been as much negro labor as here, for East Texas is filled with negroes.

Things are quieting, for the first rush of development is over. Not 10 per cent of the possible number of wells, based on the 10-acre plan of spacing, has been drilled, but the lull in work is noticeable.

The operators who promote drilling by assigning interests in future production have used up all their promises; payments out of oil are a drug on the market. The companies financially able to pay cash are now concentrating on programs of economy.

The program now is to get along with as little drilling as possible and that condition will obtain until the price of oil is much higher than it now is.

The field presents a curious appearance. One is told that 100,000 acres have been proved. But they are proved by two or three wells here, another small cluster a mile away, and so on. It suggests a hundred or more little pools rather than one big field.

The gaps will be filled in time, or partially so, but this year's rush is over.

Local labor has not, of course, absorbed all the market. Thousands of oil field workers have come in, probably three for every job to be filled. They came from Oklahoma City, Hobbs, West Texas, Seminole. Most of them who failed to find work were those who had been laid off somewhere.

Companies transferred men from other districts into the places that called for experience; what was left went to those who arrived and made the rounds looking for work, and to the residents of the community.

And they are still coming. Many of the cases are tragic. Families camped alongside the roads, living in tattered tents, the man getting just enough work to buy canned goods with which partially to fill the needs of his family.

The landowners haven't made themselves heard on the matter of proration, except as certain leaders, some of them self-appointed, have done the talking. But a little visting around with them reveals that the present demoralization of price and market outlet has led to some thinking.

There are so many owners of small tracts who haven't gotten much return in cash, and some who have received nothing at all, even though producing wells have been drilled on their lands.

The fallacy of taking out all their oil at a low price as against producing an orderly amount of a decent return is being revealed and is making new converts each day to the proration program.

A farmer, we will say, owns 20 acres. Assuming a gross recovery of 10,000 barrels per acre, his one-eighth portion is 25,000 barrels and his return at 10 cents per barrels is $2,500. That is about the price he can expect under unrestricted development and without curtailment of production.

With proper control, he may easily average 50 cents per barrel, which gives him $12,500.

"I didn't know anything about this proration business when all this fuss started," said one of the typical small farmers.

"But me and some of my neighbors have done a little figuring. I guess we were just ignorant but we have woke up. When that oil is all taken out from under our land there won't be any more and the way things are now we are just getting about 10 cents on the dollar for what we own. It's like a sheriff's sale to close a man out. I'd rather take it slower and get a lot more of it."

Especially is the "figuring" being done by those who were lured into taking a much higher royalty in lieu of cash bonus for the lease.

Many such wells cannot be operated because the promoter gave away so many interests to come out of production that the small segment of the whole that he has left will not pay the operating expense.

So much of this has been done that farmers are offering their oil payment paper for as little as five cents on the dollar of value it originally possessed.

The first rosy dreams have ended. The early wild trading and promising are over and are unlikely to be resumed at any time in the field's history.

There remains the realization that if the community is to get anything worth while out of the development from now on, there must be a complete change in the manner of operating.

The first money that came in performed a valuable service, but the cash that is yet to come will be limited according to the degree of sanity that is introduced into the operations.

The landowner is seeing this more clearly each day and there will presently be a body of public opinion established that will go far in backing up state authorities in the things they profess a willingness to do.

Good highways connect the principal towns in the East Texas field. A section of the Tyler-Gladewater-Longview road

Opposing Groups Jockey for Position In Texas Legislative Fight

HOUSTON, July 6

BATTLE lines formed over the week-end for the anticipated special session of the Texas legislature, now considered certain to be called by Governor Sterling to consider strengthening proration laws affecting the state's petroleum production.

Two hitherto opposed groups are committed to legislative programs, namely, the Texas Oil Emergency Committee, composed of substantial independent operators throughout the state; and affiliates of the Independent Petroleum Association of Texas, which has now absorbed the Texas division of the Mid-Continent Royalty Owners Association and a local East Texas organization of small operators.

Directors of the Independent Petroleum Association of Texas, at Fort Worth July 3 authorized their president, Tom E. Cranfill, of Dallas, to appoint a committee "to sponsor equitable production legislation." A program was outlined which would provide for "ratable production within oil pools and equitable withdrawals from all pools in the state."

Cranfill's association was responsible for passage of the common purchaser act, or so-called pipeline law, which has proved unenforceable since its enactment a year ago. Governor Dan M. Moody, since then anti-prorationist counsel for East Texans attacking conservation laws, vetoed the appropriations bill that would have provided funds for the statute's enforcement.

The spectacle is now presented of Mr. Cranfill and his associates, who have opposed East Texas proration by injunction suits and otherwise, now grabbing for the wheel to pilot the program of the oil industry for necessary special legislation.

President Warren L. Todd, of Columbia Oil & Gas Co., Dallas, as chairman of the Texas Oil Emergency Committee, issued a statement after announcement of plans by the Cranfill organization, saying:

"The legal committee of the Texas Oil Emergency Committee is now formulating a bill that will conserve the immense oil resources of Texas by bringing about orderly development and ratable takings in accord with the program adopted at the mass meeting in Dallas at the time the Texas Oil Emergency Committee was formed, which was attended by a larger number of independent oil operators and royalty owners than ever attended an oil men's meeting in Texas.

"We welcome the assistance of this newly formed group and will be glad to have them work with us to obtain the end that the petroleum industry and the state of Texas so earnestly desire; that is, a fair price for oil, an equitable distribution of the production and a sane and orderly development."

From Tyler, in East Texas, was issued a call by Carl Estes, secretary of the East Texas, Lease, Royalty and Producers Association, for a meeting July 7 to consider the new proration order of the state railroad commission, fixing Sabine Uplift region production at 250,000 barrels daily for July on the 20-acre unit plan of determining allowables. That there is question of the East Texas anti-prorationist group conforming to the new order is obvious from the call for a meeting to consider it.

ANOTHER attack came from the railroad commission itself, where Pat M. Neff, as minority member, opened his verbal guns on the new proration order. The former governor, who has not signed any Texas proration order for months, issued a lengthy statement in which he said the order would benefit rapid developers to the disadvantage of operators restraining their production.

"If we treat the entire field as unit," Neff said, "the minimum estimation as to the size of which the evidence showed to be 100,000 acres of proved territory, under the unit system provided for in this order there would be within the entire field 5000 units of 20 acres each, with an allowable of 250,000 barrels per day. Each unit in the entire field would be allowed 50 barrels.

"IF THE umpire decides that only acreage that has been developed by drilling is to be considered in determining the total amount in arriving at the number of units that will participate in the 250,000 barrels allowable under the order, then only 16,000 acres which have been drilled will be considered, which will be 800 units. Then the companies and individuals who have done the fast drilling and have caused the chaotic condition complained of are the only ones participating in the 250,000 barrels allowable.

"The owners of the balance of the 84,000 acres, which the petroleum engineers say is proved acreage and consists of one geological structure, who have held back on drilling, are being penalized by the order, in that when they drill their wells they will be allowed to produce only 100 barrels per day, until the time the proration period has expired in which their well was drilled, as against the 300 barrels per day allowed to the wells already drilled."

The present proration order, fixed at 250,000 barrels allowable until Aug. 1 and for two months thereafter, unless changed or modified by the commission, permits wells completed in semi-monthly check-up periods to produce 100 barrels daily until the beginning of the next period. Then wells completed in the semi-monthly period are to be brought into the equal division of productive ground as contemplated in the 20-acre unit plan.

PITTSBURGH, July 6.—The Burrell-Mase Engineering Co. are building a vapor recovery plant and a pressure distillate stabilizer for the Producers & Refiners Corp. at Tulsa, Okla.

Power Pumps Used by Richfield In Fueling War Planes

A fleet of Richfield gasoline trucks on their way to Long Island airports to supply U. S. Army planes during recent war maneuvers

NEW YORK

FIFTY trucks with power take-offs were used by the Richfield Oil Corp. of New York in its fueling of 672 U. S. Army Air Corps planes during the recent maneuvers at five Long Island airports. The trucks were of the type used for delivering fuel oil and capacities ranged from 1000 to 2000 gallons each.

The trucks were capable of delivering 50 gallons of gasoline a minute to a plane but pressure relief valves were set at six pounds which reduced delivery to 30 gallons a minute to prevent flooding at the intake of the plane's tank or weakening of the plane's tank.

Richfield supplied the fields from its main Long Island City terminal and an auxiliary depot at its Great Neck, L. I., terminal. It was the original intention of the company to supply the main requirements of 231,000 gallons of army specification aviation gasoline from the Long Island City terminal and to hold a 50,000-gallon reserve supply at Great Neck terminal for an emergency in case the army exceeded its estimated gallonage. As the maneuvers progressed it was found advisable by the company to draw on the Great Neck supply.

Trucks operating out of Long Island City left the terminal by 9 o'clock each morning and were escorted to the city limits by New York police. At the city limits Nassau county police took up the escort and remained with each contingent of trucks to the five airports.

It was necessary to have the New York Board of Standards and Appeals to waive for the maneuvers some of its gasoline hauling regulations. It was required, however, that the trucks move in a body under police escort, and that each truck should carry a fire extinguisher.

No trouble was experienced in moving the large volume of aviation fuel through the New York streets and Nassau county roads, Fred L. Foster, manager of Richfield's department of aviation, reported to his company.

As soon as Richfield got the contract for the gasoline, and 4890 gallons of motor oil, Rud J. Babor, technical director of Richfield Oil Corp. of New York, set about assembling the necessary equipment and personnel.

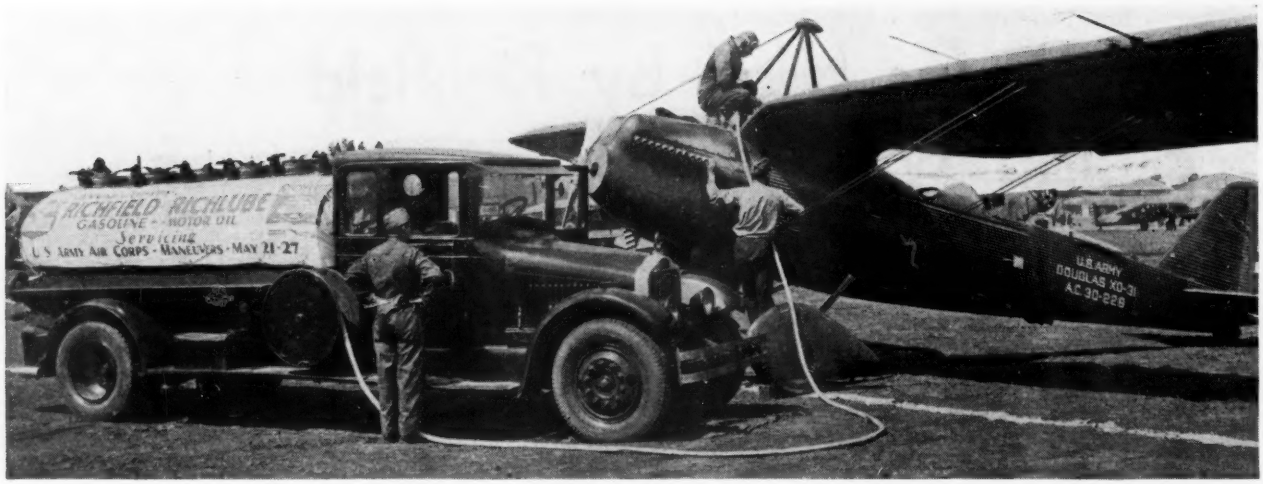
From blueprints supplied by the Army Air Corps showing the allocation of flying squads to the various airports and the daily requirements of gasoline and oil at the various fields, a study was made to ascertain the equipment and personnel needed to fuel and oil the planes within the three hours time allotted for this work each day.

It was decided not to improvise equipment but to use trucks with power take-offs, by-passes, and pressure relief valves on each truck. Each truck was equipped with 50 feet of new 1-inch metal gasoline hose and with special flexible nozzle.

As the trucks were assembled all fittings were inspected. The tanks were steam cleaned and then flushed with motor gasoline. A final cleaning was given by passing a truckload of army specification aviation fuel through each tank.

Gasoline for delivery to the air fields was loaded into the truck tanks through an 80-mesh screen. A 100-mesh screen was inserted into each nozzle as an extra precaution against dirt getting into a plane's fuel system. The nozzle screens were inspected and changed, if necessary, periodically during the maneuvers.

A copper wire was soldered to each nozzle and to the free end was affixed a battery clip.



Fuel oil trucks used by Richfield Oil Corp. of New York to deliver aviation gasoline to U. S. Army Air Corps Planes at Long Island airports during the recent maneuvers of 672 aerial warships

In fueling, the clip was attached to the plane's tank so the tank was grounded through the wire, the metal hose to the truck, and then to the ground through a chain.

There was a supervisor at each field. Each supervisor was instructed to spot his gasoline trucks and oil at a central point. When all planes had taxied into line and were ready for servicing the trucks were moved to the heads of the ship lines, ready to deliver the fuel on the signal from the crew chief of each ship line.

The fueling was carried out rapidly and on no day, said Mr. Foster, was it necessary to use the full three hours allotted for the work.

Oil was taken to the five fields in 55-gallon drums. The lubricating crew on each field was supplied with pumps, 5 and 10-gallon cans, 2-gallon, 1-gallon, and quart measures, empty 1-gallon and quart cans, and not less than eight funnels.

Oil was moved to each ship line with motorcycles equipped with side cars of sufficient size to carry a supply of oil for all ships on that particular line.

Although Richfield's contract did not specify that drained oil should be trapped for reclamation by the Air Corps, the company was notified by supply officers that recovery would be required. When oil changes were made Richfield's men used 10-gallon cans with openings of sufficient size to catch the oil as it drained from the ship. This oil was then taken to the head of each line and dumped into 55-gallon drums which Richfield supplied on short notice.

An army inspector checked all trucks out of the bulk plant each morning. At night gasoline left in the trucks was pumped into one or more trucks which either remained at the field or at a nearby Richfield bulk plant. This gallonage was deducted from the delivery to the field as of that morning so an accurate account was kept of the actual gallonage delivered to ships.

Mr. Foster in a report he made on the fueling and lubricating operations praised the co-operative efforts of Air Corps officers in facilitating the work of his company's fleet and the 120 Richfield men who directed or manned the fleet and oil crews.

In commenting on what the maneuvers showed from the oil industry's viewpoint, he said:

"We believe that the maneuvers clearly demonstrated the ability of the oil industry to meet the unusual situation created by a tremendous concentration of airplanes to the extent of providing efficient equipment and trained personnel for the servicing of a project of this character.

"In our case, we realized the necessity of providing the most efficient equipment possible for an undertaking of this kind and as stated early in this report, we decided that rather than to try and improvise equipment it would be far better to use fewer pieces of equipment of larger unit capacity with power pumps capable of delivering much greater quantities of fuel per minute than would be possible with hand pumps which were used by other companies.

"We believe that the result of using this type of equipment proves conclusively that our judgment in this respect was correct."

Emlenton Company Buys Stabilizing Unit

EMLENTON, Pa., July 3.—Emlenton Refining Co. has let a contract to E. B. Badger Co. for the design and construction of a 600-barrel stabilizing unit, to be installed at its plant here.

This unit will be used in connection with the new Dubbs cracking unit recently installed, and for the stabilization of recovery naphtha from the refinery. Open reflux will be used in the bubble tower, with heat exchanger type preheater for heating the raw naphtha before entering the tower.

It is expected that the stabilizer will be ready for operation sometime in September. The company's staff will erect the plant.

The Emlenton company also recently installed four 2-ton filters in its lubricating plant, to supplement the new plant, in clarifying bright stock.

Third Grade Gasoline Sales 15 to 22.5% Of Total Volume, Refiners Find

By J. C. Chatfield

N. P. N. STAFF WRITER

TULSA, July 3

RESULTS of the new policy of offering a third grade gasoline to meet low price competition are now becoming apparent to Mid-Continent refiners with distribution in Standard of Indiana territory. In brief they are:

1. The third grade now constitutes from 15 to 22.5 per cent of the total gasoline gallonage where all three grades are sold.

2. Total gallonage of companies selling three grades has been increased by a larger percentage than total gasoline consumption has increased indicating that cut price stations have lost business to the oil company stations.

3. The loss of gallonage of Ethyl and other anti-knock, premium fuels has been smaller than the loss of regular grade gallonage.

4. Marketing a third grade has enabled the Standard Oil Co. of Indiana to maintain its prices on regular and Ethyl fuels much nearer the "normal" level than was possible before.

5. Motor oil sales have increased in line with the increase in gasoline business attributed to the third grade.

One large Mid-Continent refiner with distribution in Standard of Indiana territory has had the following results with its third grade gasoline: Total gallonage at points where the third grade is sold increased 10.5 per cent; the third grade now constitutes 21 per cent of the total; Ethyl gasoline gallonage dropped 3 per cent.

Another refiner with wide distribution has found the third grade constituted 17.5 per cent of his total gallonage. Anti-knock grade gallonage is unchanged. Total gallonage has increased 6 per cent.

Still another refiner has found no change in his Ethyl sales, while the third grade sales have grown to 15 per cent of the total company gallonage at points where it is sold. At the same time there has been a small increase in the sale of regular gasoline.

The experience of this refiner is that growth in Ethyl sales was halted but there was no loss; the gain in regular gasoline was somewhat less than might be expected in view of the increase in consumption in the territory and that the bulk of the sale of the third grade constitutes new business.

Another large company recently checked these percentages of gasoline grades sold through its station over a 15-day period: Third grade 22.5%, Ethyl gasoline 22.5, regular 55%.

Still another company reported it has kept its total gallonage about even since the third grade was added. The low price product constitutes about 15 per cent of the total gallonage and this all came from the regular grade, Ethyl sales being unchanged.

As a general rule, when the refining companies added a third grade of gasoline, they found their sales of the new product were quite large at first. Then there was a slump as buyers went back to other grades. Now the curve of third grade sales is rising again, probably approaching a level which may be held until there is some change in the financial capabilities of customers or until cold weather drives them back to a more volatile product.

There appears to be no uniformity of sales volume of the third grade of gasoline. In Chicago some stations sell from 30 to 40 per cent third grade gasoline. In Minnesota rural areas about 20 per cent is third grade gasoline while in the Twin Cities about 30 per cent of the gallonage at most stations is the third grade.

In one town in Oklahoma the writer found a station selling 4000 gallons of third grade gasoline to 1000 gallons of Ethyl and 1000 gallons of regular gasoline per month.

Driving through Illinois, Indiana, Missouri and Kansas from Cleveland to Tulsa, the writer inquired about the

Third Grade in Pennsylvania?

MAYBE third grade gasoline, to meet demands of the motor fuel price buyer, will be extended into Pennsylvania.

Consideration is being given the manufacturer of a third grade motor fuel by Pennsylvania refiners. Conferences have been held, it is understood, by groups of refiners in the western part of the state.

One Pennsylvania refiner of long experience believes the third grade is only a temporary expedient, not a cure for the conditions that have produced it. As soon as the third grade is established, he believes, first one refiner, then another, will improve the quality until, in the end, the present non-premium grade and the third grade will be combined into one fuel.

volume of third grade gasoline being sold at every station where a stop was made. Purchases were made in 5-gallon lots on the trip to give as many stops as possible. They included roadside country stations of the better type and small town and city stations.

On this trip the smallest percentage of third grade gasoline reported by station attendants was 10 per cent, the highest 66 2/3 per cent. The average was between 15 and 20 per cent.

General comment of attendants was that owners of Model T Fords and other old cars were the chief buyers of the third grade. Tourists are buying Ethyl gasoline or part Ethyl and part regular, they say. Residents in small towns generally buy the regular grade, or Ethyl. Some are experimenting with blends in their own tanks. One operator told of customers who started out to buy all third grade gasoline and now are mixing as much as 50 per cent Ethyl with the third grade. Some take as little as two gallons of Ethyl to eight of the third grade.

Station attendants as a rule are making no effort to sell the third grade, particularly at commission stations. They complain they get only 1 cent on the third grade and hence are talking up the regular and Ethyl grades for superior performance. At company owned and operated stations the attendants make no effort to sell the third grade but do not disparage that grade when the motorist asks for it.

At quite a number of stations the third grade pump has been installed off of the regular drive, say at the side of the service station where the buyer has to do some maneuvering of his car, usually backing a little, to get the gas tank to a position where it can be filled. This, the attendants say, discourages the sale of the third grade but gives the salesman an opportunity to point out that he has the "cheap" product when a customer complains about the price of his other grades.

One station attendant pointed out his company has taken its name off of the third grade pump. The pump stands alone with no globe and only a small price tag.

A peculiar fact discovered at many stations after the third grade was installed was that sales of both regular and anti-knock grades of gasoline increased. Attendants believed that prospective customers drove in where they saw the full display of gasoline and then decided to buy the better grades.

In many cases attendants reported purchases of the third grade of gasoline are in small quantities, two and three gallons at a time. One station with the third grade constituting one third of its gallonage reported five customers for the third grade to one for other grades.

In Indiana and Missouri particularly stations selling the third grade gasoline post curb signs giving its price, less tax. A sign may read: "Gasoline 8.4 cents plus tax," the "plus tax" being in small letters. Once in these stations the salesmen try to sell regular or Ethyl grades.

In many cases stations have posted signs prominently showing that the prices are for "cash only." This is true only of the independent dealers. Larger companies will sell the third grade on the same credit terms as other grades.

The effect of the third grade on price cutter gallonage is not available as yet at many points from tax sources. Observation of the sales departments of larger companies, however, is that there has been a loss of gallonage at these stations.

One chain of stations in Indiana territory is said to have received only a third as many tank cars in the month following the introduction of Stanolind Blue. One station in Des Moines which formerly did a large business is said to have received only one seventh as many tank cars after the third grade was added.

At St. Louis a station which formerly was selling at 7 cents under the regular price of the Standard of Indiana has been doing very little business and reports are that the property is for sale. At ten one Monday morning recently only one car was in the station. Previously at the same time on a Monday morning there were cars lined up for two blocks. The station formerly sold 300,000 gallons of gasoline per month.

Counterclaims Are Filed Against Richfield

LOS ANGELES, July 1.—Personal counter claims against the Richfield Oil Co., of California, amounting to $300,000, have been filed in the United States District Court in New York by R. W. Walsh and W. C. Burns, it has been brought out in a statement issued by William C. McDuffie, receiver for the Richfield Oil Co. of California.

In a report filed in federal court in Los Angeles two months ago the receiver listed $1,032,362 which it was claimed was owed the company by directors, officers and employes. Among these were listed a claim of $41,791.85 against Mr. Walsh, and of $35,000 against Mr. Burns.

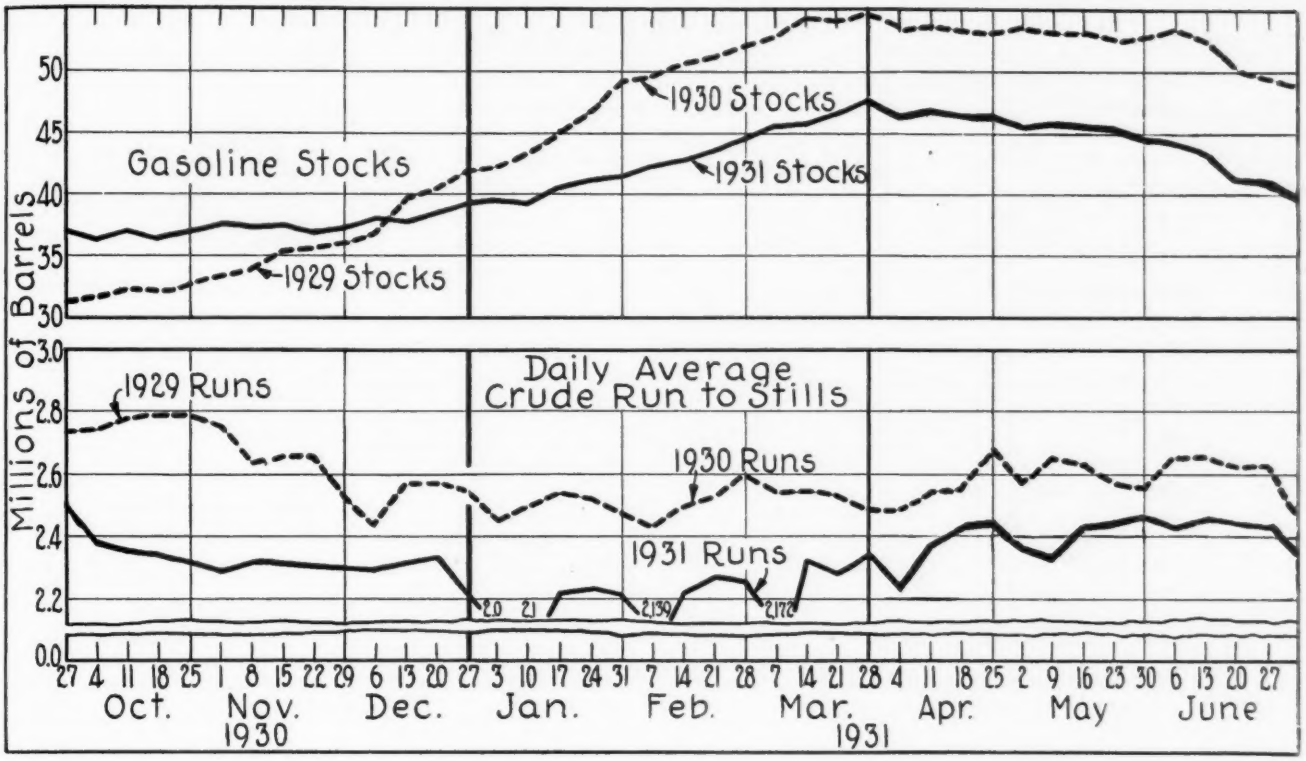
In a statement sent to the marketing personnel of the Richfield organization, Receiver McDuffie stated:

"It is felt that, in fairness to Mr. R. W. Walsh and Mr. W. C. Burns, and, further, to enable you to answer the many inquiries which you are undoubtedly receiving, you should be advised of the fact that there are at present on file with the Receiver of the Richfield Oil Co. in the United States District Court for the Southern District of New York personal claims of Mr. Walsh and Mr. Burns against the Richfield Oil Co. amounting to $300,000, which claims they feel are fully warranted and just charges against the company.

"These claims aggregate more than three times the amount of the outstanding accounts which the Receiver is claiming are due and owing the company by Mr. Walsh and Mr. Burns. These gentlemen have personally advised me that, in the event their claims are not approved and allowed, and they are unable to enforce payment of the same, they stand ready and willing to satisfy any claims which the Receiver may be able to prove against them."

All claims and counterclaims are between the California Richfield company and Messrs. Walsh and Burns, it has been pointed out, and refer in no way to the Richfield Oil Corp. of New York.

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



Gasoline Stocks Drop 2,170,000 Barrels

By Telegraph

NEW YORK, July 7

GASOLINE stocks tumbled more than 2,000,000 barrels last week at refineries, representing 94.7 per cent of the country's capacity, reporting weekly operations to the American Petroleum Institute.

Stocks stood at 39,698,000 barrels July 4, compared to 41,868,000 barrels June 27.

Daily average crude runs to stills were down 92,200 barrels. Production of cracked gasoline was lower also by 21,000 barrels daily average.

All refining districts were represented in the reduction of gasoline stocks. Reductions in principal districts are: East coast, 424,000 barrels; Indiana-Illinois, 217,000 barrels; Oklahoma-Kansas, 408,000 barrels; Texas, 665,000 barrels; and California, 129,000 barrels.

Crude runs to stills were lower also in all districts, excepting Texas Gulf coast plants. Appalachian refineries were running 21,900 barrels less crude daily, East coast, 2,000 barrels; Indiana-Illinois, 13,700 barrels; Oklahoma-Kansas, 8,400 barrels; Texas, 24,000 barrels; and California, 6,800 barrels.

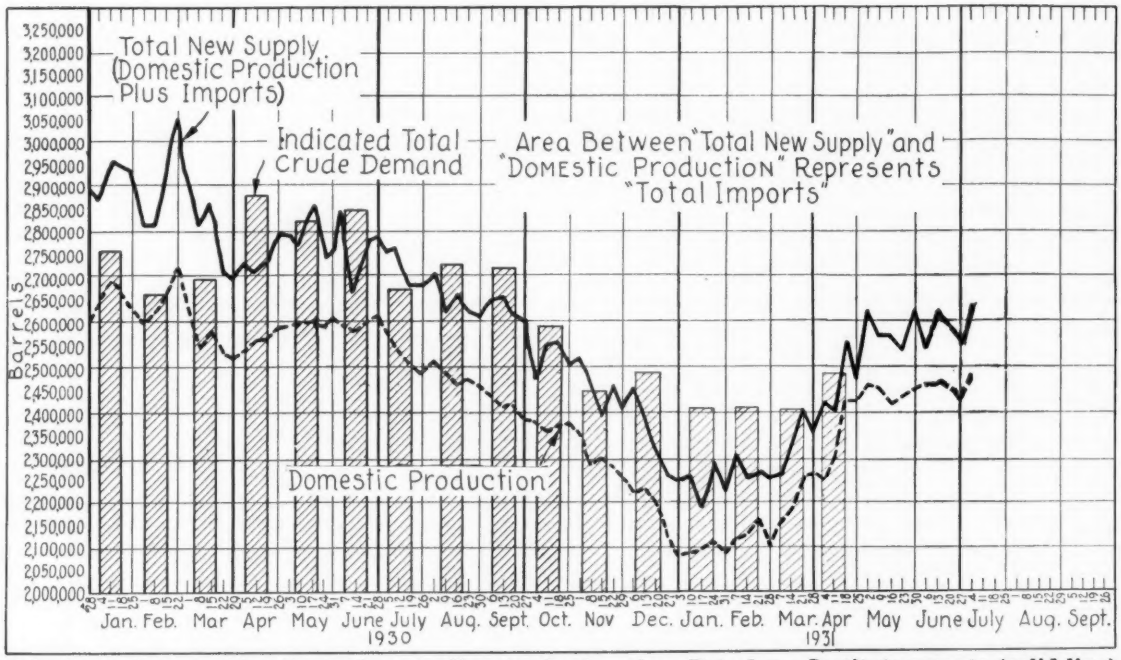
Production of cracked gasoline was reduced in all areas also, excepting for gains in the Appalachian and California districts. Texas was down 10,000 barrels daily average; Indiana-Illinois, 3,200 barrels; and East coast, 5,700 barrels. California production was up 3,500 barrels daily average, and Appalachian 400 barrels.

Refineries were operating at 63.8 per cent of capacity for week ended July 4, compared to 66.3 per cent for week ended June 27.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels)				Cracked Gasoline Production		
						Gasoline	Gasoline	Gas & Fuel Oil	Gas & Fuel Oil	% of Total Capacity Reporting	Daily Av. Production (Barrels) Week Ended	
		July 4	June 27	July 4	June 27	July 4	June 27	July 4	June 27	July 4	July 4	June 27
East Coast	100.0	459,300	461,300	72.5	72.8	7,134	7,558	9,587	9,424	90.4	86,400	92,100
Appalachian	91.8	86,400	108,300	62.0	78.8	1,479	1,558	1,202	1,235	95.8	23,600	23,200
Ind., Ill., Ky.	96.6	307,600	321,300	73.0	76.2	6,094	6,311	3,804	3,766	92.7	79,200	82,400
Okla., Kans., Mo.	89.6	273,900	282,300	62.9	64.9	2,876	3,284	4,834	4,692	92.3	50,600	54,300
Texas	91.3	523,100	547,100	68.3	71.5	7,262	7,927	10,405	10,342	96.8	116,700	126,700
La., Ark.	98.9	165,900	177,600	72.0	77.0	1,360	1,541	2,745	2,602	100.0	27,700	30,300
Rocky Mountain	89.3	42,400	46,100	29.8	32.4	1,766	1,833	853	862	95.5	16,700	16,400
California	96.5	466,100	472,900	53.0	53.7	11,727	11,856	97,937	98,122	100.0	40,400	36,900
Total	94.7	2,324,700	2,416,900	63.8	66.3	39,698	41,868	131,367	131,045	94.9	441,300	462,300
Texas (Gulf Coast)	99.8	418,700	414,600	78.8	78.0	6,118	6,777	7,401	7,377	98.6	91,000	100,000
La. (Gulf Coast)	100.0	114,100	118,900	77.4	80.6	1,266	1,433	1,839	1,662	100.0	19,300	22,000

Review of Late Production News



This chart shows crude oil supply according to the American Petroleum Institute reports (solid line) in relation to indicated crude oil demand as taken from the Bureau of Mines monthly reports (shaded columns).

California

DISCOVERY of a new heavy gravity oil field in Santa Barbara county, important showings reported in a Huntington Beach deep test, and gusher type completions and expected production tests on important wells in the Kettleman Hills pool, all featured California production news the past week.

The Barnsdall-Rio Grande combination completed a wildcat well in the Los Alamos area, Santa Barbara county, for an initial output of 250 barrels daily that later built up to in excess of 1100 barrels of 15 gravity oil cutting 10 per cent. The well is now producing on a 4-inch pump at about this same rate.

At Huntington Beach, the McCaslin deep-test is reported below 8100 feet although definite information on depth, showings, and condition of the hole is all being kept a dark secret.

Late in the week Union Oil Co. completed its initial test of the Amerada lease on the northwest plunge of the Kettleman structure for an initial production estimated at between 20,000 and 25,000 barrels daily. The well is bottomed at 8310 feet, with 9⅝-inch casing set at 6975 feet.

Texas, New Mexico, Louisiana

EAST Texas production continued above the 350,000 barrels daily average mark for the week. Its 1057 wells gave up 351,957 barrels, compared with distribution totalling 327,894 barrels, with indicated storage stock gains of 24,063 barrels daily. Pipelines handled 193,705 barrels, local refineries 24,486 barrels and tank cars 109,703 barrels daily.

Prorated production of Permian salt basin oil fields in West Texas and southeastern New Mexico totalled less than 250,000 barrels from 3063 wells, capable of many times their exploitation basis.

Crude and Gasoline Stocks
(In Barrels)
(U. S. Bureau of Mines figures)

Crude stocks, May 31, 1931	495,122,000
Crude stocks a year ago	533,491,000
Gasoline stocks, May 31, 1931	47,138,000
Gasoline stocks a year ago	54,034,000

Current production in this country by pools is found on page 73

Oklahoma, Kansas

PRINCIPAL new development in the Mid-Continent over the week was the drilling into production of another western Kansas wildcat on the Ellsworth anticline. Palmer and Gypsy Oil Co.'s No. 1 Stottenberg, center of the southwest quarter of 22-16S-10W, Ellsworth county found Siliceous lime at 3333 feet and at 3339½ total depth filled with 3000 feet of high gravity oil in 15 hours.

It was shut in until tankage could be built. It is estimated good for 1500 to 2000 barrels daily when completed. The well is 3½ miles northwest of the Tatlock and other producing well, also a big one, and further proves the Ellsworth anticline as a future source of large production. The several scattered tests on this structure are shut in, as no market outlet exists.

The market situation on crude oil in Oklahoma, Kansas and north Texas, is in better shape than in several months. No "stripper" production lacks an outlet, except for a small quantity in the Osage reservation of Oklahoma, tied up by a lawsuit.

I.C.C. Holds Hearing July 15 On Rail Rate Increase

WASHINGTON, July 6

INDUSTRIES not prepared to accede to the request for a 15 per cent advance in all freight rates must be prepared soon, to show their opposition.

The Interstate Commerce Commission has appointed a hearing in the matter of the railroad application for July 15. It will hear the railroads and such shippers as may be prepared to say that they think it would be in the public interest for rates to go up. At that time the shippers will have the opportunity, by means of cross examination, to indicate why they think there should be no such permission.

One of the things that amaze those in close touch with the matter is that every day the railroads ask for permission to cut rates to meet truck competition—and generally obtain the right to do so on less than the 30 days notice to the public required by law when the regulating body does not waive the statutory requirement.

Many permissions have been given to the railroads to reduce rates on petroleum and its products to meet truck competition, notably from the Los Angeles district to Boulder Dam and from Florida ports into the interior of Florida.

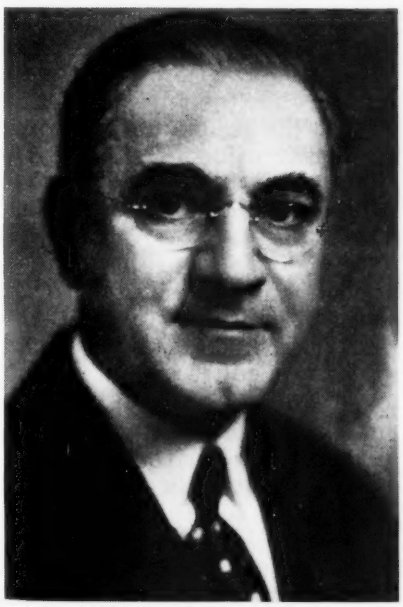
Probably several dozens of such permits pertaining to petroleum and its products could be picked out of the hundreds that have been issued in the past few months. Yet the railroads, as an industry, ask for a 15 per cent increase in rates on petroleum, with the implied promise that if the 15 per cent advance is too great, they will make reductions wherever they feel competition forces them to do so.

The program of the rate body calls for presentation of evidence against the increase beginning Aug. 31. The long time between the first and second hearings is to enable the shippers to study the figures of the railroads so that on cross examination and by exhibits of their own they may rebut the propositions put forward in behalf of an advance in rates.

An idea put forward by the Cleveland Chamber of Commerce in connection with the proposed advance has attracted some attention. That body favors the increase. The idea is that somebody has got to find a way to cutting the vicious circle of price reductions and that the railroads are that somebody.

Why the railroads? Because, says the Cleveland body, the railroad industry is the only one that, legally, may combine to raise prices. The error in that is that farmers and fruit growers are also exempted from the rigors of the anti-trust laws. But the impossibility of the farmers and fruit growers ever making an air tight agreement to put up prices, it is suspected, caused the Chamber of Commerce to make that error of statutory law.

The Cleveland idea is akin, it is believed, to the announcement of the Standard of California that it proposed to increase prices for crude and thereby do something toward breaking the vicious circle of one price dive following another.



Howard G. Jones

Resigns Treasurership Of Ohio Standard

CLEVELAND, July 1.—The resignation of Howard G. Jones from the Standard Oil Co. of Ohio, as a vice president, treasurer and director, is announced by President W. T. Holliday as effective July 1.

Mr. Jones, who began as a messenger boy in 1892 for John D. Rockefeller Sr., has been actively associated with the Standard since that time. He will continue a member of the board and will devote most of his time to the broader phases of company operations.

Succeeding Mr. Jones in the post of treasurer is W. J. Semple, comptroller since 1928. Mr. Semple is another whose association with the Standard dates back to earlier days, although his connection was not continuous. In 1901 he joined the Standard, leaving in 1906. From 1913 to 1923 he was secretary and treasurer of the Cleveland & Western Coal Co., and in 1924 was appointed city finance director for Cleveland, to which post his chief contribution was the reorganization and balancing of the city sinking fund upon a business basis. Four years later he resigned, and rejoined the Standard as comptroller in 1928.

W. J. Semple

«Octane Number» Must be Used with Care Until Standard of Test is Evolved

By Arch L. Foster

N. P. N. STAFF WRITER

OCTANE number, as a designation of the relative anti-knock rating of motor fuels, appears to have taken the country by storm.

Last January the Society of Automotive Engineers, in co-operation with other interested agencies, decided upon and adopted the Octane number scale as a standard for rating motor fuels for knock tendency. In the few intervening months, the use of the term and its employment in buying and selling gasoline has spread over the entire country.

The motoring public is being made familiar with the term as defining certain characteristics of gasoline. One company is advertising the Octane number of its gasoline in its newspaper copy. Refiners are beginning to use the term in selling their motor fuel gasoline.

It is desirable that all concerned be cautioned not to progress too fast with the general use of this term and method for evaluating motor fuels, inasmuch as the test method for determining Octane Number is not completely standardized as yet.

All who have been connected with the petroleum industry are aware of the misuse that has been made of the "benzol equivalent" method of rating the knock in gasolines.

This expression developed during the earlier stages of the development of motor fuels of improved knock rating, during the last ten years. In great measure like Topsy, it "jes' growed."

Lack of sufficient co-operation between the elements of the industry, wide variation in the purity of benzol, or benzene employed, lack of a suitable component of unvarying knock value with which to blend benzol for knock determination—these and other considerations have prevented the benzol equivalent "measuring stick" from becoming standard and led to confusion in use of the term.

A flat statement of the knock rating of a fuel, in numerical terms and without any other specification or explanation, means nothing whatever. It may even be entirely misleading, without any intent of the seller to deceive the buyer.

The purpose of the co-operating agencies, in developing a standard knock test method, apparatus, and reference fuel has been to eliminate this indefiniteness, and to build a secure structure on which to hang knock ratings which would carry the same meaning the world over. A knock rating of 74 Octane number would, when the present work is finished, indicate the same knock tendency anywhere.

THIS condition has not been reached as yet. Not always can a statement of the octane number of a fuel be taken as a completely definite, invariant degree of knock tendency, nor do two fuels which are rated by different laboratories with the same number necessarily agree with exactness, in their knocking tendencies under stipulated conditions.

The reason for this is obvious —*the work of the co-operating agencies* in developing the entire method of testing, *has not been completed.*

The standard reference fuel has been adopted. It is standard. The components, normal heptane and iso-octane, are obtainable in a pure state, their relative knock tendencies will remain constant. This part of the yardstick is constant, it will not change, within the limits of determinable experimental error.

But there are two other parts of the measuring device,—the knock test method,—which have not been standardized, although these parts of the work are apparently near completion.

These are the standardization of the testing engine, and the agreement on, and adoption of, the details of the method of operation of this engine in carrying out the test.

UNTIL these are also standardized and all operators understand exactly the method of making the determination, the expression "octane number" cannot have the definite, exact meaning which it must have if it is to serve the purpose for which it is being perfected.

To recall the history of this work to date: some three years ago the Society of Automotive Engineers, the American Petroleum Institute, the National Automobile Chamber of Commerce, and the Bureau of Standards formed a Co-operative Fuel Research Steering Committee, which has applied its energies to the solution of this problem of knock rating, which was then, and until recently has been, in chaos.

It was decided that three major steps must be taken; that is, standardization of a reference fuel, a test engine, and a method of procedure.

Eight or more laboratories have been co-operating in obtaining data on the problem. A tentative standard engine design was formulated, engines built to this design were tested exhaustively by the co-operators. Changes were suggested and incorporated in it, new en-

gines built, more exact details of the method of conducting the test were formulated, and the work continued.

The difficulties to be surmounted have been innumerable, the problem itself is complex. The co-operation of a large number of widely scattered laboratories of necessity requires a great deal of time for the proper correlation of data and effort.

To date the results accomplished are: A standard reference fuel by which all fuels may be measured has been adopted; the testing engine and accessories have been practically agreed upon and standardized; the details of the test method have been agreed upon in the main, and only the smaller items of the method remain to be systematized.

It is the belief of many of the technologists involved in the work that the end of the year will see the completion of the work and the standardization of the entire test method.

When the method is finally completed, it will be the first exact method of determination of knock ratings that has yet been devised for the entire industry.

But we must not forget that this method is not complete. Determinations from most of the laboratories which have studied the matter are practically in agreement, little if anything remains to be done in completing the engine design; only a few details of the operating method are yet to be smoothed out. But no standard method is yet available.

Therefore, Octane numbers determined by different laboratories are not yet to be compared with exactness, some variation between results obtained on the same gasoline is to be expected. When the entire methods has been standardized we firmly believe that comparisons may be made within a small limit of error, between results obtained in different laboratories.

Until that time comes it is imperative that, in order to properly evaluate any Octane number quoted by a prospective buyer, seller or other interested person, not only should the Octane number be given but the method of determination and the testing apparatus used should be stated.

Sun Introduces Public to Octane Ratings in Selling Gasoline

CLEVELAND SUN OIL CO. is making use of Octane Number ratings in part of its marketing territory in merchandising its Blue Sunoco gasoline. The merchandising is done through newspaper advertisements, and outdoor posters and banners.

Sun is acquainting the public with the Octane Number rating method by explaining in simple language this means of measuring the anti-knock property of gasoline. The company also makes comparisons with the average knock ratings of gasoline as reported by the U. S. Bureau of Mines in March, 1931.

Sun is claiming an Octane Number of 72 plus. The average for regularly priced gasolines, as reported by the Bureau of Mines, was 59.2 and for premium gasolines 73.7. The minimum of the Ethyl Gasoline Corp. standard is approximately 74.

The Sun's number was obtained by using the same method of testing as was used for the Bureau of Mines in arriving at its averages, the company states in its advertisements. These tests were made by the

OCTANE RATING 72
BLUE SUNOCO
59
Proof Positive
The Average of REGULAR PRICED GASOLINES
(U. S. Bureau of Mines Report, March, 1931)
that BLUE SUNOCO is a high powered, knockless motor fuel . . .
How OCTANE RATING Is Determined
INTO the head of the testing motor is placed the Midgely Bouncing Pin, a scientific instrument which forms an electrical contact when the motor knocks.
The contact caused by the engine knock is at once registered electrically on a dial.
The motor is run on the gasoline whose octane rating is to be measured. The load on the motor is increased until the dial registers knocking.
Without stopping the motor, the gasoline is cut off, and the motor is run, with the same load, on a mixture of octane and heptane.
Different mixtures are tried until the dial again registers knocking. The percentage of octane in the mixture in use at that time is the octane rating of the gasoline.
Octane is a fluid costing $25 a gallon. Running on octane, a motor cannot be made to knock. Heptane is another costly liquid. Using heptane, however, a motor knocks violently.
Therefore, the higher the percentage of octane in the mixture of octane and heptane, which matches the gasoline being tested, the better is the knockless performance and the higher is the octane rating of that gasoline.
The Society of Automotive Engineers has already adopted "octane rating" as the method of measuring anti-knock quality in gasoline. The Sun Oil Company gladly accepts this measuring stick—so have many other large refiners.
High up the octane scale stands BLUE SUNOCO—proof positive of the powerful knockless qualities that make it a motor fuel of undisputed premium quality! . Yet it sells at regular gasoline price.
Automotive engineers agree that gasoline over 70 octane rating is essential for modern high compression motors. Premium priced fuels substantiate this fact by having an average octane rating of 73.7/10 (U. S. Bureau of Mines Report, March, 1931).
This premium rating of BLUE SUNOCO, which in and around this city has advisedly been held at 72+, proves it is a high powered, knockless, quality motor fuel . . . yet it sells at regular gas price. You save at least 3c per gallon.
BLUE SUNOCO
THE ONLY TRUE BLUE
. . . THE PREMIUM MOTOR FUEL AT REGULAR GAS PRICE . . .
You save at least 3c per gallon

One of Sun Oil Co. advertisements in which the public is introduced to the Octane Number method of rating the anti-knock quality of gasoline

U. S. Bureau of Standards.

The company states that automotive engineers agree that gasoline over 70 octane rating is essential for modern high compression motors. Premium gasoline substantiates that fact, it adds, by having an average octane rating of 73.7.

Here is the way the company explains how octane rating is determined:

"Into the head of the testing motor is placed the Midgley Bouncing Pin, a scientific instrument which forms an electrical contact when the motor knocks.

"The contact caused by the engine knock is at once registered electrically on a dial. The motor is run on the gasoline whose octane rating is to be measured. The load on the motor is increased until the dial registers knocking.

"Without stopping the motor, the gasoline is cut off and the motor is run, with the same load, on a mixture of octane and heptane.

"Different mixtures are tried until the dial again registers knocking. The percentage of octane in the mixture in use at that time is the octane rating of the gasoline.

"Octane is a fluid costing $25.00 a gallon. Running on octane, a motor cannot be made to knock. Heptane is another costly liquid. Using heptane, however, a motor knocks violently.

"Therefore, the higher the percentage of octane in the mixture of octane and heptane, which matches the gasoline being tested, the better is the knockless performance and the higher is the octane rating of that gasoline."

Return of Prosperity by Aviation Favored by Many Oil Men

NEW YORK, July 3

MANY favorable replies have been received by Max B. Miller & Co., refinery equipment manufacturer, in support of the idea for our industry to support aviation to promote the return of prosperity. The idea was first proposed by Max B. Miller, head of the company.

The second issue of the company's house organ "The Yellow Sheet" was issued today, following up its first appeal on June 15. Attached to the current issue is a partial list of oil men replying to the first issue.

They are: W. R. Boyd, Jr., executive vice-president, American Petroleum Institute; J. W. Van Dyke, chairman of the board, Atlantic Refining Co.; E. B. Reeser, president, Barnsdall Corp.; H. H. Champlin, president, Champlin Refining Co.; P. M. Miskell, manager, Empire Companies; Otto Koch, president, Kendall Refining Co.

C. L. Suhr, president, Pennzoil Co.; Henry M. Dawes, president, Pure Oil Co.; S. Messer, president, Quaker State Oil Refining Co.; Chas. S. Jones, vice-president, Rio Grande Oil Co.; P. T. Sharples, president, Sharples Specialty Co.; H. F. Sinclair, president, Sinclair Consolidated Oil Corp.

W. G. Skelly, president, Skelly Oil Co.; K. R. Kingsbury, president, Standard Oil Co. of California; J. H. Senior, director, Standard Oil Co. of New Jersey; Dr. E. R. Lederer, vice-president, Texas Pacific Coal & Oil Co.; and H. A. Logan, president, United Refining Co.

Three direct aids for our industry to use in promoting aviation are given again in the second issue of the house organ.

These are: to instruct heads of mailing departments to use air mail wherever economical, as to save time for instance; to place at the top of air mail letters the notation as to how it was sent as the envelope seldom reaches an executive's desk; and if a prompt reply is desired to ask for a reply by air mail.

The second issue tells the story of an early adventure with an automobile, when autos were considered rich men's toys. That was only 26 years ago. The issue continues by showing that no one then dreamed of the possibility of the auto to our industry and to steel, and that the airplane is destined to contribute similarly to the progress of transportation.

Promotion of aviation as a return for prosperity is based on the thought that progress has turned on the development of transportation. By roads, water, railroads; then the automobile, and now the airplane.

As our industry would benefit directly by development of the airplane Mr. Miller urges oil men to support the movement for our own reward as well as for the return of prosperity.

S.O. Indiana Promotes Four of Its Staff

CHICAGO, July 3.—Four employes were promoted in the general office staff of the Standard Oil Co. of Indiana July 1.

They are: W. B. Haas, formerly statistical secretary to the president, and L. E. Harmon, formerly auditor of manufacturing, both to assistant secretaries of the company; M. A. McNulty to auditor of manufacturing; and E. H. Vollriede, assistant auditor.

All the men promoted have been with the company many years. Mr. Haas was employed as a clerk in 1905 and worked up through clerical and accounting positions to statistical secretary to the president in 1929.

Mr. Harmon was with the Prairie Oil & Gas Co. from 1912 to 1922. He became assistant auditor in the manufacturing department in 1924, and auditor of manufacturing in 1929.

Both Messrs. McNulty and Vollriede started with the Indiana Standard as office boys. Mr. McNulty started in 1916, then was a junior clerk, and became assistant auditor of the manufacturing department in 1928.

Mr. Vollriede was promoted from office boy to bookkeeper, and joined the army in 1918. He returned to the cost department in 1919 and was placed in charge of that department four years ago.

Oklahoma City Allowed Production Stepped Up to New Demand

TULSA, July 4

WITH pipeline runs from Oklahoma City field hovering around the 200,000-barrel mark daily, the state corporation commission granted this week an increase in the allowable production of the field for July.

Accepting the same potential as applied in June, the commission ordered an eight per cent allowable for July, as compared to six per cent in June, except for the last four days of the latter month when a special order was granted permitting 10 per cent allowed production.

The new order applies to the third quarter of the year. The commission accepted the figures of operators who filed a petition asking that the June potential be used as the basis for July, as no increase had been made. That figure was 2,768,679 barrels. With an allowable of eight per cent, the production permitted to come from the wells is 214,294 barrels daily. That is as close as possible, avoiding fractions, to the computed market outlet, which the commission found to be 203,170 barrels daily.

For August, the commission found that the potential would be 2,790,871 barrels and the market outlet 196,000 barrels. It placed the allowable for that month at seven per cent. September's potential was found to be 3,222,582 barrels and the market demand 182,000 barrels. The percentage of allowable for that month was placed at six per cent.

The order says that if the situation changes with respect to market demand, application may be made for revision of the allowed percentages.

The potential production, as estimated in the order, is that obtained by taking a four-hour continuous flow of each well, multiplying the figure by six to compute to 24-hour basis, then dividing by three. The commission held several months ago that the computed 24-hour flow was far in excess of what a well would actually make in 24 hours open flow and that probably one-third would be a fair figure.

The application of Wirt Franklin, heard some weeks ago, for proration of the field by zones, was not passed upon. The commission commented that it was withholding decision in the matter.

Oklahoma City field for the 24 hours ended at 7 a.m. July 2 reached the highest mark in production it has so far attained. Of the 801 wells classed as producers, 126 were opened and produced a total of 317,778 barrels.

Increased demand by buying companies has led to the jump in production. Stanolind Pipe Line Co., which had cut its runs to around 25,000 barrels daily because of its decision in May to remove the oil in its long line from Wyoming to Kansas City, has stepped up takings in Oklahoma City to about its former figure. For the week ended June 29 it averaged runs from the field of 48,376 barrels daily.

It is understood that the Indiana company is unwilling to deplete crude oil inventories at present prices and that Oklahoma City oil is being stored barrel for barrel with what is withdrawn from the Wyoming line.

CHAMPLIN Refining Co., which three weeks ago was granted temporary and limited restraining order against the corporation commission, is producing from 7000 to 10,000 barrels daily in Oklahoma City. The state had obtained an injunction against operation of the company's wells on the ground that it had overproduced.

The federal court order said the company might produce 10,000 barrels on condition that it post a $200,000 bond to run to the corporation commission. This is to reimburse offsetting well owners for drainage damages in the event the Champlin attack on proration is lost.

The three federal judges who sat in this case took testimony the past week and adjourned to July 28, when arguments will be heard. Attorneys for the Champlin and for the state were ordered to brief the testimony offered.

PHILLIPS Petroleum Co., Anderson Prichard Oil Corp. and T. B. Slick Estate, who own offsets to Champlin wells, were given permission to intervene and argue on July 28 for setting aside of the order under which Champlin is producing.

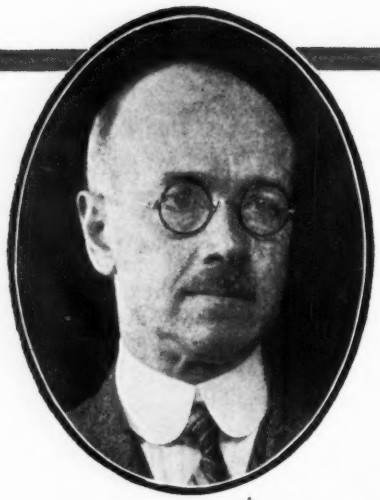
A master was appointed to ascertain the facts with respect to the stay order, and he will report on the day of the arguments.

Champlin's underlying contention is that the company is in position to handle its production, without waste, . and that orders which are issued by the state compelling it to produce ratably in order to preclude waste on the part of other operators are not a valid exercise of the state's power.

To that extent, it asserts that the state law on ratable taking is in violation of its rights under the federal constitution. It contends also that proration, as carried on in Oklahoma, is in interference with interstate commerce and that the orders of the commission are discriminatory.

The state asserts that the only way that waste, both underground and through loss in storage above ground, can be prevented is by ratable division of what market exists in time of overproduction.

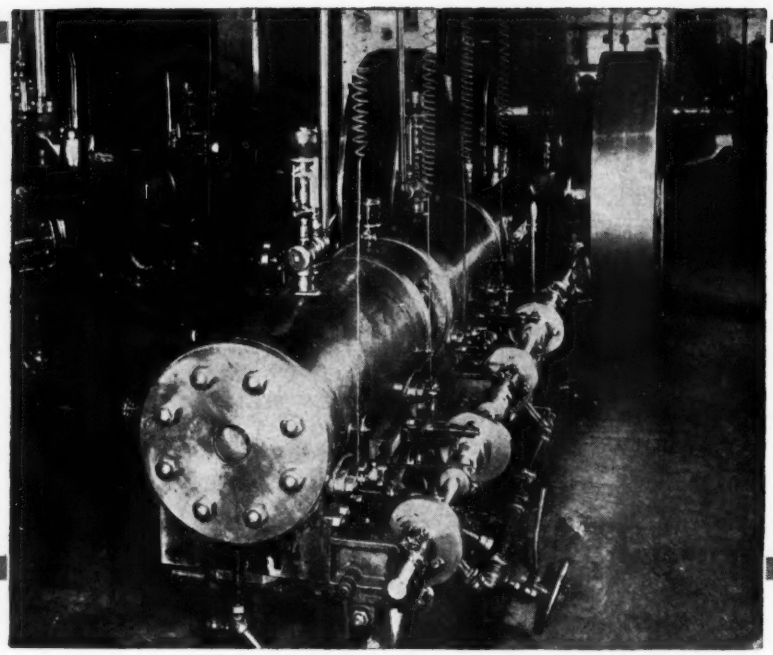
The **Keen — Enqineerinq Talent** *that an Outstanding*



S. B. DAUGHERTY

Our Engineering Division has been particularly strengthened by placing Mr. S. B. Daugherty in full charge of our development work, and by the employment of Mr. C. E. Sargent as Mr. Daugherty's assistant.

These two men are prominent figures in gas engine gas compressor design and consulting engineering. They brought to TRANSIT a wealth of technical experience, together with a broad practical knowledge gained in the field by intimate contact with gas men and their problems.

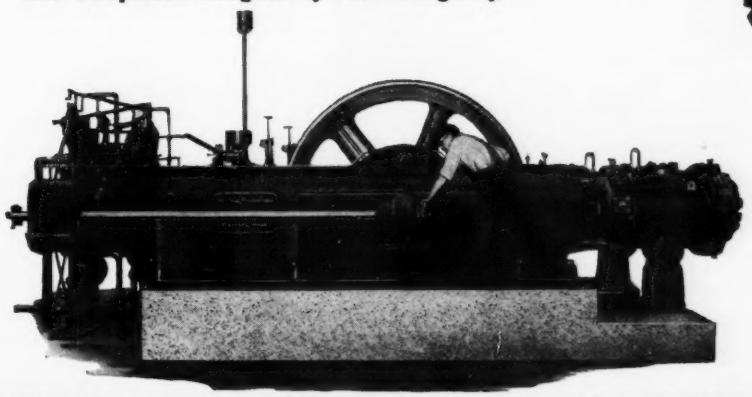


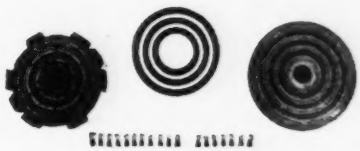
John Scott Medal of the Franklin Institute, awarded to Mr. Sargent in 1907 for his original work on this engine.

The first tandem, double acting, four cycle, complete expansion gas engine. On display in the Ford Museum at Dearborn, Michigan. Designed by Mr. Sargent in 1897.

Experienced *is making* TRANSIT *success!*

TRANSIT 17 x 24" Twin, Four Cycle, Single Acting, Direct Connected, 170 H. P. Gas Engine Gas Compressor designed by Mr. Daugherty.





A TRANSIT compressor valve removed from natural gas compressor after three years (18,802 hours) of service. Discharge pressure 150-250 lbs.

Our Development Department is studying the application and design of TRANSIT gas ENGINES and Gas Compressors to the end that these products will exactly meet the requirements of the natural gas industry.

The problems of fuel economy and compressor valves have already been solved with so much success that we just can't see how anyone can justify the selection of compressing equipment of any other make.

You owe it to yourself to investigate.

C. E. SARGENT

REFINERY PUMPS FOR HOT OIL and many other refinery service
PIPE LINE PUMPS
FIELD PUMPS

BEAUMONT, TEXAS — E. L. Wilson Hardware Company
SALT LAKE CITY, UTAH — F. C. Richmond Machinery Co.
TULSA and MID-CONTINENT FIELD — Frick-Reid Supply Corporation

NATIONAL TRANSIT PUMP & MACHINE CO.
OIL CITY, PA.

PHOENIX, ARIZ. — Pratt-Gilbert Co.
LOS ANGELES — Republic Supply Company of California
ST. LOUIS, MO. — Reeves & Skinner Machinery Co.

NEW YORK PHILADELPHIA CLEVELAND PITTSBURGH LOS ANGELES HOUSTON TULSA NEW ORLEANS

GAS ENGINES
GAS ENGINE GAS COMPRESSORS
TOOLS for Pipe Line Construction

New Big Well at Kettleman Hills Adds to Threat of Surplus

By Jack Westsmith

N. P. N. STAFF WRITER

LOS ANGELES, July 3 FIREWORKS and reports from completing wells in several California fields intermingled the past week as a prelude to the Independence Day celebration.

However, this new production, particularly the gusher type in the Kettleman Hills pool, is bringing anything but the holiday feeling to the hearts of conservation leaders who see their carefully prepared proration programs threatened.

Small independent operators in the semi-flush fields of Santa Fe Springs, Long Beach, Elwood, Ventura Avenue, and Playa del Rey are threatening to rebel against curtailment orders that limit their daily production to approximately half while operators in the Kettleman Hills flow large wells at nearly capacity.

Since one barrel of oil from this field is equal to slightly more than two barrels from any other California field, the daily output of nearly 100,000 barrels at Kettleman Hills is an ever present disturbance in the Pacific coast situation.

Although the potential production from producing wells in this field has been set at 153,000 barrels for July, and this figure does not include a 20,000-barrel well completed July 1, operators are still striving to achieve the prorated allotment of 60,000 barrels daily set for this field in the state's new proration goal of 487,500 barrels daily.

Additional wells being drilled on fee land not included in the North Dome plan of unit operation are expected to keep actual daily production from this field above the 100,000-barrel mark the balance of the year.

Another important factor in the situation here is the failure of the government to get bids for its royalty oil from permit land. Although the posted price in the field, following the Milham completion, was $1.65 per barrel, for a 60 gravity oil, the government succeeded in getting $2.65 per barrel from an independent refiner. And it received $2.25 per barrel for royalty oil from the Continental well.

Under present demoralized conditions, purchasing companies are reluctant to bid on the government's share of the North Dome production and there appears a possibility that the lessees will have to sell the royalty oil along with their own at the market price, which is now $0.66 per barrel and during the recent low prices was $0.35.

In view of this unsatisfactory condition, caused largely by an oversupply of oil, California operators look with concern on reports of additions to the state's production at any points, even though it may not at present disturb local markets.

EARLY in the past week the Barnsdall-Rio Grande combination completed a wildcat well in the Los Alamos area, Santa Barbara county. The well, Togazzini No. 1, on Sec. 9, 8-32, was completed on the pump for an initial production gauge of 115 barrels in 11 hours.

With a 4-inch pump installed the project made 664 barrels of 15 gravity oil in 13 hours, cutting 10 per cent, accompanied by 50,000 cubic feet of gas. A cement plug was set at 2501 feet and 10¾-inch casing landed at 1750 feet. With 798 feet of 6⅝-inch casing, including 751 feet of 450 mesh perforated, landed on the bottom and 4-inch tubing hung at 1409, the gas was flowing under a slight pressure through the casing head. Gasoline content of this gas was reported as 4.4 gallons per thousand cubic feet.

The Togazzini lease is on a structure along the Gato Ridge approximately 10 miles southeast of the Cat Canyon field, and is on land taken from the Golconda Petroleum Corp. during the early part of 1930. The entire leased area of 3200 acres is checkerboarded among the Rio Grande-Barnsdall Group and Golconda on a 50-50 basis.

LOOSE sands encountered while making hole in this well made drilling extremely difficult. In the stretch of formation from 800 to 2000 feet it was practically impossible to maintain circulation. This bad place was passed only after two months of drilling and with the aid of thousands of sacks of cement and tons of straw, manure, cotton seed hulls and rice hulls had been forced into the formation. The total depth reached was 6510 feet but, since the showings at this depth were of questionable nature, the well was plugged to its present producing depth of 2501 feet.

In Kettleman Hills, Union completed its initial test of the quarter section of land for which it is reported to have paid $8,000,000 for half interest to the Amerada Petroleum Co. This land is in Sec. 29, 21-17, on the northwest plunge of the structure and is not included in the unit plan of operation.

According to field scouts, Union's well, the Amerada-King No. 1, looks like the biggest completion in the Kettleman Hills field yet, and that is

saying something in the face of 20,000-barrel producers already chalked up in that area. Flowing through 4 traps from a depth of 8310 feet and with a string of 9 and 5/8-inch casing set to 6975 feet, the production was estimated at between 20,000 and 25,000 barrels of 36.5 gravity oil and 30 million cubic feet of gas. This flow is going through two 3-inch tubing beans under tubing and casing pressures of 600 and 300 pounds respectively.

The well is an offset to Superior Oil Co.'s Huffman lease, which has two producing wells that have a combined potential production in excess of 30,000 barrels daily.

Another important coming completion at Kettleman Hills is Shell Oil Co.'s Dixon 1, Sec. 36, 21-17, down structure from the "famous" Sec. 35, which has four producing wells and which is not included in the unit plan of operation. The bottom of this well is at 8807 feet, with casing set at 7260 and combination string run to 7695 feet. Because of its down-structure position, this well is especially important as an indication of production possibilities of other flank wells that are either drilling or have locations and rigs under way. A successful completion of the Dixon 1, which is on the border of the area considered proven in the North Dome unit plan would undoubtedly cause increased drilling on neighboring sections of land held in fee.

At Huntington Beach, W. E. McCaslin, an independent operator, is reported to have cored some 200 feet of good oil sand between 7900 and 8100 feet in his Transport No. 17, a deep test located on the shore line of the beach field.

However, the policy is much the same as that maintained by Wilshire Oil Co. at Santa Fe Springs prior to discovery of the Buckbee zone in 1928—the derrick is boarded up and absolutely no information is being given out. Because of its proximity to the Los Angeles Basin a prolific deep sand in this area would be particularly disastrous to the curtailment program, especially inasmuch as the area around the well is controlled by a number of small operators.

Minority Seeks to Block New Conservation Statute

LOS ANGELES, July 3

POSSIBILITY that California's newest legislative measure to regulate the oil industry, Senate Bill 362, may not become effective until it has been put to a vote of the people, is indicated in the report that the necessary number of signatures have been obtained on a referendum petition.

This petition was circulated throughout the state under the direction of a professional set-up, the Gasoline Producers' and Consumers' Association. At latest reports the necessary number of signatures, some 70,000, had been obtained and were being checked for validity.

Senate Bill 362 prohibits waste and places proration under the jurisdiction of a board of commissioners. The law defines waste very carefully to give the commission wide powers.

Although backers of this move are keeping in the dark, it is understood they constitute a small minority group of independent producers and refiners who have consistently bucked any legislative measure to regulate the oil industry.

Placards displayed while the petitions were circulated appealed to the voting public on the grounds that the proposed law would put the smaller operator out of business, and with the California oil industry disrupted, major interests would step in and obtain a complete monopoly. Voters among the motoring public were told that enforcement of the conservation law would result in sky-high prices for gasoline and crude oil.

Although reports have indicated the Independent Petroleum Association was interested in this referendum movement, officials of that group said that, while they fought against the bill during its passage before the legislature, they dropped any concerted opposition when the measure was signed by the governor.

Unless a special emergency election is called to put this and other measures, passed at the recent session of the state legislature, on which referendums are also being sought, to an immediate vote of the people, there is considerable doubt that the conservation bill will be of any use in aiding rehabilitation of the local industry.

A successful referendum, without the special election, will hold the operation of this law in abeyance until the next general state election in November, 1932. Because of the high expense, the governor is not expected to call a special election for the oil bill alone.

However, a petition being circulated in the northern part of the state for a referendum against a bill providing for reapportionment of members from this state to the house of representatives, is of such major importance that its success would undoubtedly necessitate a special election and provide a means of getting a direct vote on the oil bill at the same time.

New Institute Committee Appointments

NEW YORK.—Raymond M. Parker, Jr., of the Richfield Oil Corp. of New York has been appointed to the eastern regional code committee of the American Petroleum Institute.

Other appointments made recently by the institute include:

L. S. Bassinet, Standard Oil Co. of California, San Francisco, appointed a member of the committee on automotive transportation of the division of marketing, succeeding H. H. Hall, resigned.

G. C. Noble, Richfield Oil Co., Los Angeles, succeeds W. M. Neal as a member of the same committee and of the Pacific Coast group.

C. R. Weidner, Prairie Pipe Line Co., Independence, Kan., appointed chairman of the committee on corrosion of oil field equipment, succeeding E. P. Bly, resigned.

Visiting Around the Refineries

By Arch L. Foster

THE operating force of the Barnsdall plant at Wichita is practically the same as it has been for the last eight or nine months, practically no cutting of force having been necessary.

This plant has erected a total of four Dubbs units in the last nine years. Last year new and larger reaction chambers were installed on all units with consequent increase in the cracking capacity and flexibility of the plant. At the same time Lientz combustion gas recirculating systems were installed on each unit, which, officials claim, resulted in a very appreciable and welcome reduction in fuel costs.

F. S. Horne, superintendent of this plant, seems to apply the same ideas to plant housekeeping that he does to caring for his firearms collection, both being clean, as may be expected of a confirmed "gun-bug." After all, the urge of the shooting enthusiast to keep his artillery in spick-n-span order is well applied to a lot of things, especially refineries.

* * *

COLORED motor fuels have created quite a considerable interest and discussion in Great Britain, where the idea of dyed gasoline is just being introduced. Newspapers and automotive and petroleum publications have been giving plenty of space to discussing the fuels being offered and the reasons for the use of dye, and what it means to the fuel and the user of fuels.

For a short while a pink-colored gasoline has been marketed in various parts of Britain, and it was found that, in keeping with their general ideas of conservatism, the British motorist was inclined to shy at the use of it. Recently another American company has introduced a fuel dyed green, and has been careful to explain at length that the dye has nothing direct to do with the value of the fuel in use, but is colored simply to protect the purchaser and insure that he gets what he asks for, that the gasoline is not "doped" in any way, but is blended of petroleum products only, to equal the best "No. 1 spirit," as the best gasoline is known in England.

The British Petroleum Co. has announced that it will introduce a sky-blue "petrol," to be known as "B. P. Plus", in competition with the new petrols being marketed by other companies. All these fuels are to be sold at the regular competitive price, which in March was 1 shilling, 4½ pence in the London area, or approximately 33 cents per Imperial gallon.

"Creme-de-menthe," is the term applied by the motorist and the newspaper men to the new gasoline. The Daily Mirror, writing in serio-facetious vein, states, " 'Five gallons of orange juice, please!' This may soon be the way in which the motorist will ask for his petrol at the filling station, if a new fashion for colored motor fuels catches on over to the extent that it has in America. Instead of ordering two gallons of somebody's 'No. 1', the motorist will just murmur, 'a couple of creme-de-menthe', or 'ruby' according to whether his particular brand is colored green or red. . . . It has been discovered, however, that it is eighteen times cheaper to make petrol an attractive color by the use of dyes. . . ."

In the Petroleum Times, leading British oil journal, for March 28, 1931, the statement was made, apropos of any objection to colored fuels by the British public, "In the United States probably some 25 per cent of the motor fuel sold today is artificially colored, and that should be a sufficient answer to any objection of British users."

* * *

CANADIAN authorities and research men are working together in a concerted effort to develop methods for the utilization of Canada's oil and gas resources. Recently The National Research Council laboratories at Ottawa have developed a process for the manufacture of ethylene and other related products from natural gas. Dr. G. S. Whitby, director of the chemistry division of the Council, stated at the Montreal convention of Canadian chemists that olefines could be manufactured from natural gas at a very low cost, and that "these gases could be used for the production of fuel and industrial alcohol, glycol for anti-freeze, dynamite, solvents for lacquers, and fumigants for grains."

A large amount of natural gas is produced in the Turner Valley, Alberta field in Canada, and a large portion of this gas must be wasted if taken from the wells, and the same is true of gas produced in other fields of Canada. Several plans and methods for utilizing this gas or disposing of it profitably without waste have been proposed recently, and one or more of these plans are being put into effect.

* * *

IT WAS recently reported that the Ethyl Gasoline Corp., New York, has joined forces with the Dow Chemical Co. in a new project to extract bromine from sea water. According to the report a plant will be erected near Wilmington, Del., for carrying out the new process. The bromine is used in the preparation of ethyl fluid, for the preparation of ethyl gasoline.

Several years ago, this company installed a complete laboratory and experimental plant on a converted steamship, and a large amount of experimental work was carried on over a long period in developing a suitable commercial method for bromine extraction.

Pioneering with «Bottled Gas»

Butane Plant Design in the Early Days. First Quantity Distributing Point for Cooking. Wet Gas versus Dry Gas. First Light Cylinders

By A. N. Kerr* and C. L. Kerr**

PART 2

A YEAR or so after our first work with liquid gas in 1910, Godfrey Cabot interested himself in the product. Even previous to our entry into natural gasoline in 1909, he had experimentally liquefied natural gas with liquid air. He was then, and later, in control of a large amount of natural gas and also the lamp black production in this country. He made most of it in West Virginia on the little Kanawa River.

If you are at all up on Plymouth Rock history you will recall that the Boston Cabots have been in trade, and very successfully too, for a long time. Near Elizabeth, W. Va., Mr. Cabot later built a very complete plant and had competent chemists in charge. His several patents tell the story of his work. As early as 1914 he contemplated barging the gas by boat in large quantities. However, he showed after all that he had the judgment of a Cabot. He knew enough not to talk back to the ticker tape.

His plant built, he tried selling the gas, took a good long look and quit. This caused the rest of us to think a little, but not enough. We were children of the land and too tenacious. As a side light which will illustrate the kind of gentleman Mr. Cabot really is, we can mention a little incident. Once upon his visit to Sloan & Zook plant at Kane, Pa., he observed an expensive compressor standing outdoors and uncared for. This machine had been sent there by the Consolidated Liquid Gas Co. for the manufacture of liquid gas. Although Mr. Cabot had no interest and was only a visitor he purchased, before he left a tarpaulin for $7.50 and saw that the machine was protected from the elements.

After the War

When the war was over and we could get cylinders we again approached the Great American Housewife as a prospect. We thought again to unload our sales problems on agents which we secured in the vicinity of New York. We did not realize that few agents could carry this burden without our constant help and advice. Strangely enough customers took our word for it that the gas was practical at 25 cents per pound and bought quite a few sets at $150 each. They afterwards found the cost pretty high.

The agents we had secured were of the wrong kind, namely the enthusiasts who wished to make a quick clean up. True enough, the servicing and installation costs did effect a quick clean up of their cash resources. They quit for the most part and left our cylinders scattered over the eastern half of New York state. The cost of going after them was more than they were worth. This cured us of being too free with cylinders. It is the thing that breaks most cylinder companies. The burden is terrific. The more business you do the more financing you must do.

*Imperial Gas Co., Long Beach, Cal.
**Rockgas Products Co., Pittsburgh.

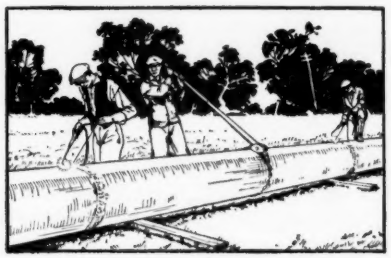
G. G. Oberfell, of Philfuels Co., under whose direction a large part of the more recent development work on liquefied gas has been accomplished

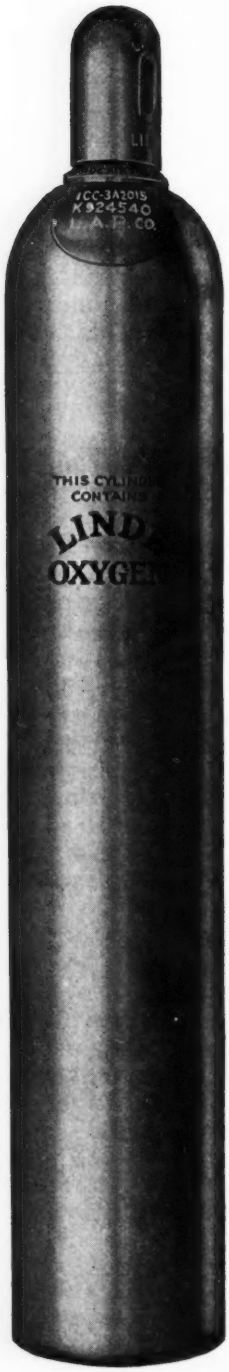
Butane Plant Designs of Early Days

While president of the old Casinghead Gasoline Association at Tulsa in 1915, one of the writers, A. N. Kerr, had the problems of the industry much at heart. It hurt our pride because we must sell our product, casinghead gasoline, to the refinery, thus moving it at a loss in a roundabout way to the consumer. We later devised a plan to ship it directly to a small town and weather it there rather than in the oilfield where gas had no value.

We planned to give it an extra good weathering, using the discarded gas for making air-butane gas, and then blending the resulting gasoline with a little naphtha so as to produce motor fuel. The plant was to be a glorified filling station which also fed the deserving and lucky inhabitants with an air-butane mixture, or "greased air" as it was then called. This solution also was suggested by

In the Mill and on the Firing Line





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our experience at Sistersville.

Since 1912 the Riverside Oil Co. at Sistersville, had been selling to the Standard Oil Co. of Indiana around 30,000 gallons weekly of 84-86 gas machine gasoline. We had developed a patented pressure still in which we split casinghead three ways. We were then very familiar with "greased air." We were shipping carloads of gasoline to make it, to towns in Iowa, such as Victor and Atlantic. There were 32 towns in Iowa alone at one time, which used "greased air." Our thought was to use the butane tops for this purpose, rather than the expensive pentanes and hexanes in 84-88 gasoline. We knew that they would not condense, for we had found the mixture of 15 per cent gasoline vapor and 85 per cent air would not throw down too much liquid even on winter nights in Iowa, if the end point of our gasoline did not drop below 200° F.

We later interested Mr. Abbot, of the Continental Gas & Electric Co. at Cleveland, in this plan. We designed a plant for Beatrice, Nebr. We also designed a tank car for 35 pounds pressure and hurried to ask the Bureau of Explosives about it. They refused to let us use this car, although years later they allowed it to be built. Again we were too soon. On three separate occasions we warmed up on the gas plant idea and figured it through patiently. We found it a problem of financing rather than a prospect for great profit in a small town; then too, all the gas men were conservative. They were sold on the idea but wished to see us take all the chances. The casinghead business was still better than that for us. After all it took a large company and much money to sell the butane idea, just as Prof. Lowe struggled for years before people would use his water gas.

Rockgas Products Co.

In 1917 C. L. Kerr formed the Rockgas Products Co., Pittsburgh, with the idea of selling Gasol and Gasolite. Later he was joined by A. N. Kerr and they built a liquid gas plant on Neville Island, near Pittsburgh. This was large enough in capacity to supply all of the

Emby Kaye, Skelly Oil Co., who has also been very active in liquefied gas development

eastern United States. Three 8000 gallon high pressure tank barges brought liquid gas from Charleston, W. Va. and this was rerun at Neville Island. To purify the liquid of heavy ends, the gas was condensed from the top of the large stock tanks. The first product was a fairly good one and very little trouble was experienced except in selling it.

I. N. McNay, our vice president, and an ardent enthusiast in liquid gas, had charge of the plant. He helped to find containers, tanks and fittings which would keep the gas from leaking out. This was then one of our greatest problems.

We filled our own tanks and those of the Pittsburgh Thermoline Co. They purchased 3000 tanks and sold gas for cutting and cooking. Roy Eichleay spent much time and money in forwarding this business. He did considerable work in the New York City suburbs and on Long Island. He later bought the Blaugas tanks and also the Blaugas patents.

In 1918 we began to hear of the product Butane used as a trade name. This was put out by the Hope Natural Gas Co. Dr. J. B. Garner had begun his work with the gases in 1916, but the Hope company did not get into production until later. The Hope product had somewhat the character of butane at first, but, owing to climatic conditions, the product later became more like propane. They used small cylinders, 8 inches x 48 inches, holding 40 pounds. They sold cutting gas exclusively. Our cutting gas was sold in cylinders 10 inches x 48 inches holding 60 pounds. The Hope company built up the largest cutting gas business through their contact with the steel companies, who furnished them with pipe.

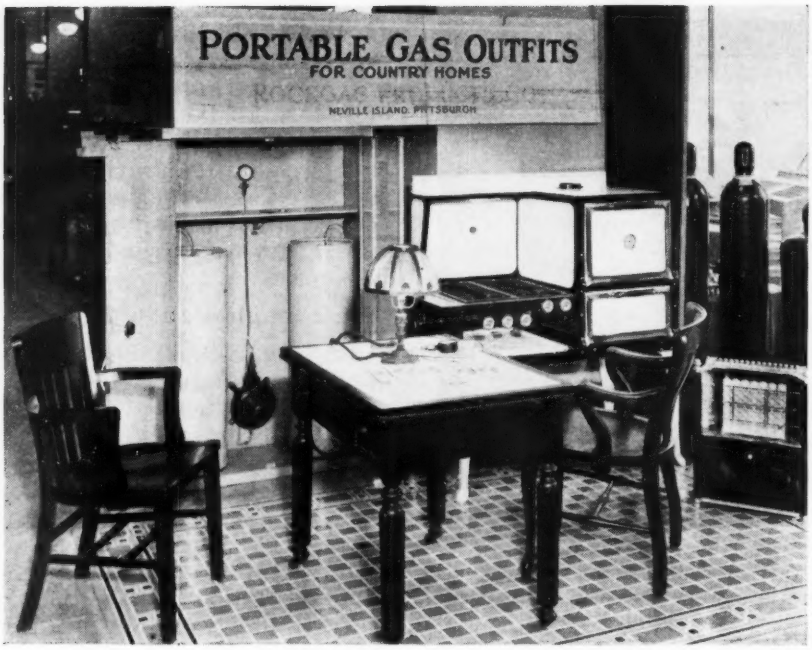
Pumpless Blow Torch

In 1919 J. B. Anderson developed the pumpless blow torch and in conjunction with C. H. Allen, of General Engineering and Model Works, Pittsburgh, a great deal of time and money was spent and many torches put out. These were used for soldering armatures, for tinning copper plates, for preheating and for line work. Continuing this work Mr. Anderson later developed a pencil arc burner, a plumber's furnace and lead melting furnaces, all used in connection with the pumpless blow torch. In addition to these he has since built a liquid gas soldering iron for line work. For serving these appliances he developed small cylinders and special valves for his company, the Liquefied Gas Appliance Co., Sharpsburg, Pa.

Union Carbide Company

Returning again to 1919, practically all the products of that time were mixtures made with compressors by cutting the gas one way or another. The Rockgas Products Co., the Pittsburgh Thermoline Co. and the Hope Natural Gas Co. all made such a fuss competing for the cutting trade that the Union Carbide Co. began to wonder if they were not overlooking competitors who might supplant considerable Presto-Lite. They built a plant at Clendenning, W. Va. and brought out Pyrofax and Pyrogen, the first for cooking and the second for cutting.

By this time none of us had made any great headway. We found that liquid gas for cutting steel had at that time one or two shortcomings, which are in a way advantageous, yet they retard its use and sale. With oxygen the cutting temperatures are about 1500 degrees lower. This does not allow so fast a start. The explosive range and the burning range is so narrow for the liquid gas and so wide for acety-



An early "wet gas" system, as displayed at the Manufacturers' Exposition, Pittsburgh

lene, 3 to 83 per cent, that an operator who has used acetylene at first finds it more difficult to use the liquid gas. However, the liquid gas cannot be wasted. It insists on burning right or not at all. It is very economical.

First Low Fizz or Wet Gas

In 1920 we were making gas machine gasoline at Neville Island. Years before we had developed a very successful type of enclosed still for cutting casinghead into three parts, Fizz blend, 86 degree gas machine gasoline and aviation gasoline. We found that the Fizz, or butane tops, would start quickly in any gasoline burner; that is, that no heating of the generator was necessary, as with gasoline.

We had an associate at Rochester, N. Y., named J. M. Kelley. He was a good burner man and made different burners for low Fizz. After a year or so in selling this product he made, at our suggestion, a catch basin burner which was the father of the Protane burner and very much like it. We obtained a patent covering the fuel used in these burners. With this system there is no regulator and a gasoline drum is used. The pumping required with ordinary gasoline is nearly all done away with and little generating is necessary, but special burners having a generating tube must be used.

We placed quite a number of this type of outfit in 1925 and have placed some since. The outfit is simple, has a speedy flame, but is not quite in the gas class. Many thousands of these outfits were placed by another company. When we opened our branch (Imperial Gas Co.) in California in 1925 we used the dry gas method and did not use low Fizz (wet Gas).

We have now brought our history down to 1920 at which time the Pittsburgh Thermoline Co. and the Rockgas Products Co. were both selling isolated installations for cooking. The Hope Natural Gas Co. was selling cutting gas in smaller cylinders. Cabot had a few cylinders working at Elizabeth, W. Va.

First Quantity Distributing Point for Cooking

The first modern distributing point was at Greenwich, Conn. It was supplied by the Rockgas Products Co. At this point there was a town located on rocky soil, containing 125 millionaires. The gas companies could not pipe the gas to these rich estates. They had servants who left frequently because they would not learn to cook on any other fuel than gas.

A Mr. Small, of the Nugas Co., together with Mr. McNay to help him, fought a partly successful battle against all obstacles and a considerable amount of gas was sold. The reason for success was that the greatest market for liquid gas lies with the city woman gone to the country. She has learned to cook with gas. Her servants are hired in the city and sent out to her. These conditions were true of New York City and its suburban cities and towns.

Long Island estates afterward paid 20 cents per pound for the gas and were glad to get it, principally on account of the servant problem. The farmer's wife has never yet been sold gas on a paying basis. Those farmers' wives who use gas are mostly one time city folks. "Ma" and "Pa," if they have always farmed, are too conservative and economical to buy very fast.

At this time the Union Carbide Co. were selling cooking and cutting gas. Seeing our success at Greenwich they began an active campaign in the New York suburban district. They spent much money in research and came forth with the column still. They adopted a very adroit name for it and called it a "stabilizer." The Union Carbide Co. had stations all over the United States.

With them they had an expert stove and equipment man, Mr. Whitfield, who had been with Mr. Schenk at Wheeling. They tested and approved stoves and originated the 100 pound container. As they made their own cylinders at Indianapolis, they had all the facilities for manufacture and all the facilities for distribution in their hands.

Beginning in 1920 they got quite a business going within three years. They spent large sums in doing this and were the first to find that mere money does not solve problems in distribution of liquid gas. The gas business cannot be forced beyond a certain leisurely gait at a profit. Time is more essential than money. The work of the Carbide Co. did much to sell the liquid gas idea to the public, and the column still did more for gasoline than for liquid gas.

During this period low Fizz had also been placed on the

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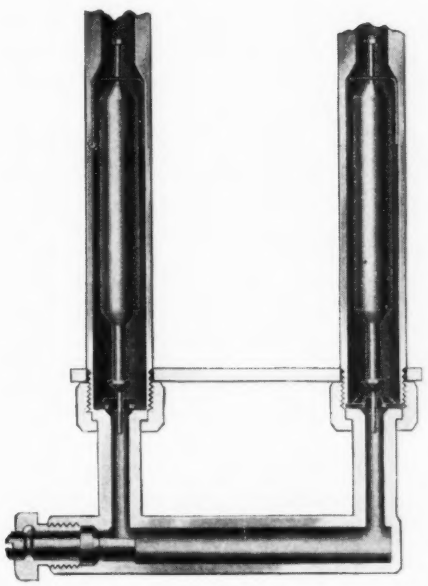

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market by the Protane Co., with whom Mr. Kelley of Rochester had become associated. To him must be credited the term "Bottled Gas." The Protane Co. sold its product in a 10-gallon gasoline drum and used a special stove with the Kelly burner. Frank Boyd, now deceased, of Erie Forge, a good executive, made quite a success of the Protane Co. B. B. Stroud, of Bradford Gasoline Co., furnished gas for the tanks. Mr. Kelley afterward formed a company called the Universal Bottled Gas Co. at Rochester, and continued to sell low Fizz but used I. C. C. 7-70 cylinders.

First Light Cylinders

In our work with low Fizz we first used a 15-gallon galvanized drum. It would leak horribly when the pressure got up high enough to loosen the joints. Through the Pressed Steel Tank Co. we secured a pressed drum. This was still weak. We then went to the Bureau of Explosives and secured a new specification cylinder called I. C. C. 7-70. This took a lot of time but allowed us to cure some of the defects in low Fizz.

The old product boiled at about 32 degrees F. and, when temperatures got below that, a hand pump was used to put pressure on the drum. By the use of a regulator to cut the pressure from 70 pounds to 20 pounds, the 7-70 tank could supply to a gasoline type stove a more volatile gas which never needed pumping, which would start quickly and which worked like gas. Subsequently many different forms of special burners were made for this gas and many of them closely resembled ordinary gas burners in appearance. Our Mr. McNay now started out for himself, using the 7-70 cylinder, built special stoves and sold McNay Gas. He later turned back to propane and dry gas. The ideal mixture for the 7-70 cylinder is approximately 50 per cent propane and 50 per cent iso-butane. Mr. McNay was one of the first to be engaged in the business of selling wet gas.

Part 3 will appear in the July 15th issue of National Petroleum News.

ADVERTISING PAGES REMOVED

Needs of Refineries for Metals At High Temperatures*

By E. S. Dixon**

Part 2

THE recent publicity given flow or creep of steel under temperature makes it imperative that the refiner present as one of his needs data on how much stress will be carried by metals operating under the maximum temperatures encountered. This is particularly true with reference to pressure vessels, where the allowable operating pressures and the service life of the vessels are dependent upon the metal stress at which the equipment may be operated for any definite temperature.

It is hoped that additional data tending to reconcile the opinions of experimenting laboratories may be obtained through the presentation of the refiners' needs as to temperature and the stress of metals. It is particularly important that refiners know safe operating stresses for definite temperatures with especial reference to plain carbon steel of the quality used for pressure equipment. The allowable stresses of various heat-resisting alloys, while not essential from the standpoint of loss and danger through fire, are important. Following are the views of some refiners and manufacturers.

One refiner (J) reports;

"This is a large question which requires the statement of specific conditions for a definite answer. Data applying to the creep strength of steel and alloys at high temperatures are still very meager. Furthermore, economical and safe design is dependent upon the functional relationship between the time and metal temperature, which is most difficult to obtain. The factor of safety which must be applied to determine a design stress is dependent upon the analysis which is used to determine the actual metal stress. Approximate methods, in general, will require greater factors than the more accurate methods.

"The desirable life of the equipment is also a factor, since the permissible rate of deformation will vary inversely with the life. It is our practice at the present time to design carbon-steel furnace tubing for creep stresses which will produce a creep of about one per cent of operation. We would expect to replace the tubes after they had given about five years' service.

"In the light of most recent data, it appears that the creep values which we have used are about 75 to 80 per cent of those which are now considered to produce one per cent creep per year. In the case of external piping which is subjected to heating on but one side we design for a creep stress which will produce one per cent of creep per year. To the thickness so obtained additional allowances are made for corrosion, secondary stresses not otherwise accounted for, errors in calipering, manufacturing tolerances, etc. If the total thickness so obtained is below that which we consider practical, then the latter thickness is taken as the base, and is increased by the amount considered necessary for corrosion. The practical consideration only enters into the problem in the design of small tubing.

"WHERE creep stresses govern the design of equipment, it will not be necessary to give much consideration to those temperatures which only occur for a short interval of time; or, to put it more precisely, the proper weighing factors should be applied to each temperature to which the equipment will be subjected. In the case of pressure vessels, the average temperature of the metal will be somewhat below the oil temperature. It will be found worth while to take advantage of this drop in temperature, even though it is small. We design pressure vessels for a creep stress which will produce about one per cent of creep per year.

"It is believed that the vessel is not endangered even if the accumulated creep amounts to as much as 10 per cent. Practical considerations would probably limit the creep to not more than 5 per cent. To the thickness obtained by such a creep stress, we add whatever amount is desired for corrosion. Thus we have a vessel which may be used for some time after the metal which is provided for corrosion has been removed. A life of ten years is considered to be entirely adequate for the vessels."

IT IS the opinion of refiner "W" that;

"The maximum stress will be that encountered with a pressure of 1000 pounds per square inch in 3-inch inside diameter by 4-inch outside diameter tubes, which corresponds to a maximum fibre stress of 3500 pounds per square inch for new tubes and 6700 pounds per square inch based on a maximum depreciation of 50 per cent (Clavarino's formula). The maximum steel temperature is approximately 925° F."

A manufacturer (Z-1) remarks;

"The maximum stress which we have used at 1200° F. is 4000 pounds per square inch. However, higher allowable stresses

*Presented before the Symposium on the Effect of Temperature on the Properties of Metals, American Society of Testing Materials, Annual Meeting, Chicago, June 22-25.

**The Texas Co., Port Arthur, Texas.

are desired in the interest of economy, and in many cases also to save weight and space."

Table 2 lists stresses reported.

Tonnage Requirements

Presentation of data with reference to the needs of the oil industry for metals under temperature would be incomplete unless accompanied by an approximate tonnage of metals required per year. Replies received are somewhat disappointing. It was hoped that an approximate tonnage of 18 per cent chromium, 8 per cent nickel alloy, used for tubes and heat-resisting alloys used for furnace parts would be obtained. Apparently the reason for not receiving more definite information is because it is extremely difficult for a refiner to anticipate his construction program with certainty, so that the actual tonnage economy in service has not been completely demonstrated.

Refiner "J" reports;

"Our annual tonnage of steel and alloys for pressure vessels, tubing, piping, valves, etc., varies considerably. Our average for the last few years is as follows:

	Tons
Pressure vessels	700
Tubes and piping[a]	1500
Valves, fittings, pump castings, etc.[a]	1000
Average yearly tonnage	3200

[a]For installations where alloy steels may be given consideration."

Manufacturer "Z-1" reports;

"Our estimated annual tonnage would be; 200 tons of low-chromium alloy steel, 40 tons of high-chromium or chromium-nickel alloy steel."

Table 3, giving data with reference to metal requirements at high temperatures, summarizes the various replies. It is felt that this does not at all represent the full requirements of the oil industry. A study of Table III will give an indication of the requirements for steel which will be used under temperature.

Types of Equipment

To date, refinery equipment made of alloy steel has been confined to preheater tubes, valves, exchanger tubes (shell and tube type exchangers), header boxes, outside lines, tube supports, tube sheets, air heater

Table 2—Summary of Replies Giving Data on Metal Stresses at High Temperatures

Company Code	Stress, Pounds per Square Inch Temperature Degree Fahrenheit 600	700	750	800	850	900	950	1,000	1,300	Remarks
From Refiners										
A	.....	.....	.....	7,000 to 8,000	6,000 to 7,000	6,000	.....	.....	.....	Tubes are used at higher stresses.
B	.....	.....	.....	.....	.....	.....	.....	.....	.....	No data.
C	.....	.....	.....	.....	.....	.....	4,800	.....	.....	Creep equal to 1 per cent per year.
D	.....	.....	.....	.....	.....	.....	.....	.....	.....	Stress unknown.
E	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
F	.....	.....	.....	.....	.....	16,000	.....	1,000	2,000	For 18 per cent chromium, 8 per cent nickel alloy tubes.
F[a]	.....	.....	.....	10,000	.....	6,200	.....	.....	.....	For carbon steel tubes.
G	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
H	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,000 to 5,000 lb. stress at 1400° F. desired.
I	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
J	.....	.....	.....	.....	.....	.....	.....	.....	.....	Creep value of 1 per cent per year used.
K	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
L	.....	.....	.....	.....	.....	4,000	.....	.....	.....	Vessels 14,000 lb. at 150° F.
M	.....	.....	.....	.....	.....	.....	.....	.....	.....	No definite stresses given.
N	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
O	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
P	.....	.....	.....	.....	.....	1,000	.....	.....	.....	Probably refers to pressure.
Q	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
R	10,500	9,500	8,600	8,000	7,000	6,000	6,000	4,000	.....	0.2 to 0.3-per cent carbon steel used.
S	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
T	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
U	.....	.....	.....	.....	.....	.....	.....	.....	.....	2100 lb. per sq. in. at 1100° F. creep stress used.
V	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
W	.....	.....	.....	.....	.....	.....	.....	.....	.....	Maximum stress of 6700 lbs. used on tubes.
X	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,000-lb. maximum stress, temperature not shown.
Y	.....	.....	.....	.....	.....	7,250	.....	.....	.....	.....
From Manufacturers										
Z	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
Z-1	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,000-lb. per sq. in. stress at 1200° F.
Z-2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1 per cent creep in 10,000 hours. uses 0.6 to 0.8 of this value.
Z-3	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.
Z-4	.....	.....	.....	.....	.....	.....	.....	.....	.....	No stress data given.

Look at the average new skimming plant in a flush field

Thirty gallons of fuel oil goes into storage for every 12 gallons of gasoline that goes into the tank car

Straight-run gasoline

No market for the fuel—low prices for the gasoline

What's the use?

Dubbs cracking is the way to make gasoline

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

tubes and similar equipment. Pressure vessels under temperature are made of carbon steel, and in a few cases are lined with 18 per cent chromium, 8 per cent nickel or some other type of corrosion-resisting alloy.

A check-up of the various replies received indicated that preheater tubes are apparently of more importance than other equipment, as 21 replies mentioned preheater tubes, 10 mentioned valves, piping, and fittings, 8 mentioned pressure vessels, 5 spoke of tube supports and 4 mentioned steel plate.

One manufacturer (Z-1) covered the field very thoroughly, stating;

"We have the following types of equipment subject to either high temperatures and pressures, or both; furnace and exchanger tubes, hot oil piping, return headers for furnace tubes, flanges for pipelines, bolts, tubes, hangers and miscellaneous furnace parts.

"Retainer plates and tube sheets, fractionating towers, pressure vessels, valves, pump parts, thermowells, bubble caps, fractionating trays, tubes and other parts of air preheaters, dampers, furnace roof or arch."

Welding Properties

Many refineries use welding on low-carbon steel subjected to temperature, and many pressure vessels are fabricated and connections made by welding. Outside lines are frequently welded. Light gage air heater tubes are fabricated from alloy steel rolled to size and welded. Tray supports in towers, when made from alloy material, must be welded. Lines for vessels and nipples are welded.

In some cases alloy pump liners are welded into place.

The amount of welding and the character thereof varies in different refineries, some using welding for low-pressure equipment only, while others use it as an important feature of pressure-still construction.

Of 30 replies, from both refiners and manufacturers, 28 report welding desirable, 15 remarking it is not imperative, although desirable, and one stressed the fact that no detrimental change in the physical properties of the metal should result because of welding.

Ease of Fabrication

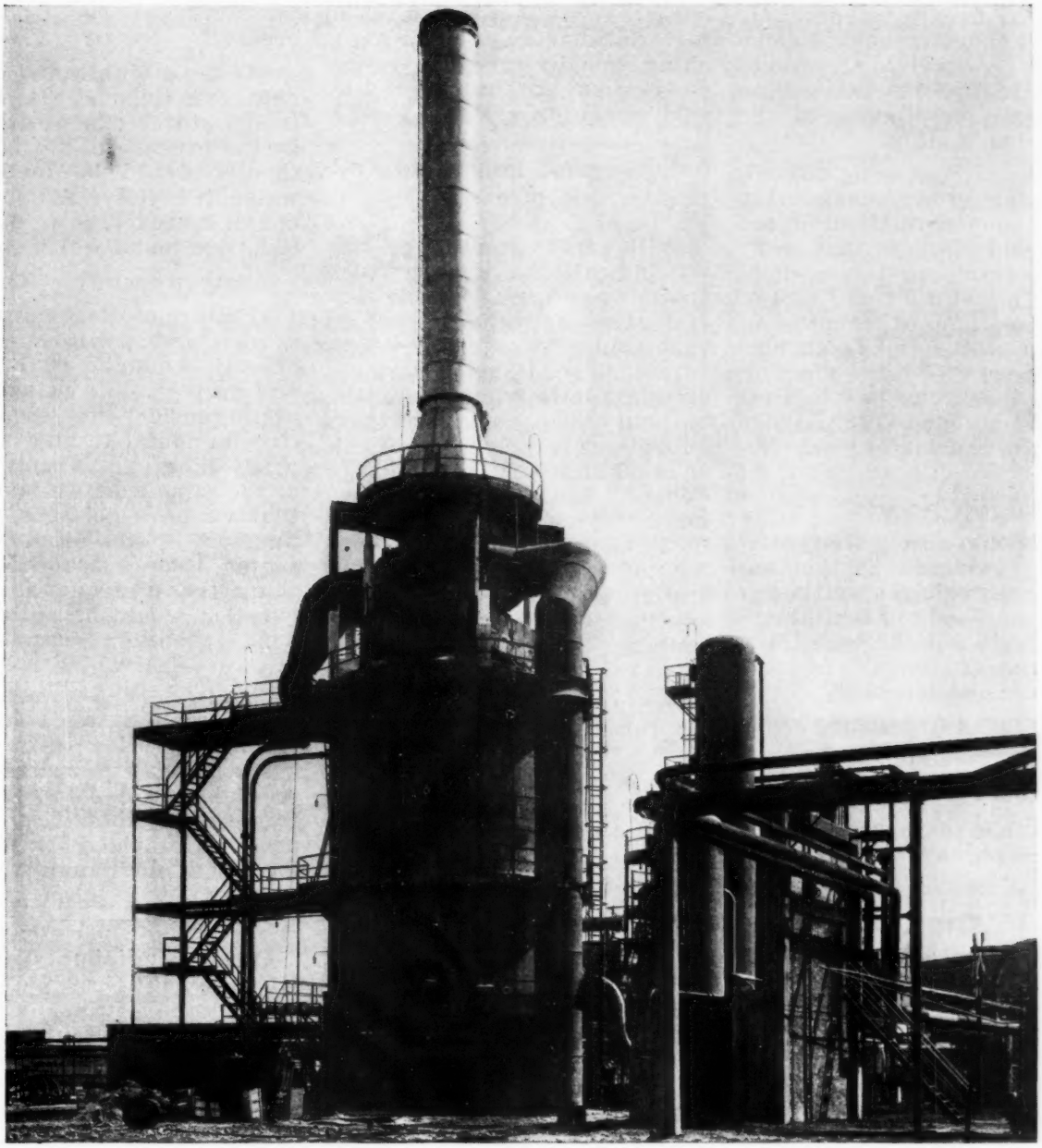
Not only must the refiner have a metal which will give service under temperature; but it must also be a metal which may be readily fabricated in remote refineries, operating in small towns at a considerable

Table 3—Summary of Replies Giving Data on Requirements of Steel Used at High Temperature

Figures In Tons of Steel Per Year

Company Code	Tubes	Headers	Valves	Castings	Pipings	Plate	Vessels	Total	Remarks
From Refiners									
A	1,000	.....	.....	.....	500	.....	.....	1,500	Tons of tubes includes headers
B	20	.....	.....	.....	.....	.....	.....	20	.....
C	1,000	.....	.....	100	.....	.....	.....	1,100	.....
D	.....	.....	.....	.....	.....	.....	.....	200	Not classified
E	120	.....	.....	.....	.....	.....	80	200	Includes fittings with tubes
F	.....	.....	.....	.....	.....	.....	.....	.....	Not able to make estimate
G	.....	.....	.....	.....	.....	.....	.....	5	Not classified
H	.....	.....	.....	.....	.....	.....	.....	50	Not classified
I	60	.....	.....	.....	150	.....	150	360	.....
J	1,500*	.....	1,000*	.....	.....	.....	700	3,200	Tubes includes piping; valves includes other castings
K	.....	.....	.....	.....	.....	.....	.....	.....	No quantities shown
L	.....	.....	.....	.....	.....	.....	.....	350	Not classified
M	.....	.....	.....	.....	.....	.....	.....	12	Based on present yearly replacements
N	2	20	.....	.....	.....	40	.....	62	Headers include all cast steel fittings
O	.....	.....	.....	.....	.....	.....	.....	.....	Impossible to estimate
P	50	.....	.....	.....	.....	.....	.....	50	.....
Q	.....	.....	.....	.....	.....	.....	.....	.....	No comments
R	.....	.....	.....	.....	.....	.....	.....	.....	Impossible to estimate
S	.....	.....	.....	.....	.....	.....	.....	.....	No comments
T	.....	.....	.....	.....	.....	.....	.....	.....	No comments
U	20	.....	.....	.....	.....	.....	.....	20	Includes valves
V	.....	.....	.....	.....	.....	.....	.....	.....	Suggests analyze figures of construction companies
W	200	.....	.....	.....	.....	.....	.....	200	.....
X	.....	.....	.....	.....	.....	.....	.....	.....	No comments
Y	14,359 207	(Low chro- mium steel)	.....	.....	1,200	.....	.....	15,769	Also 3 tons of chromium nickel air-heater tubes. (Quantity used in 1930)
From Manufacturers									
Z	120	.....	.....	.....	200	.....	.....	320	Condenser tubes only; piping includes valves
Z-1	240*	.....	.....	.....	.....	.....	.....	240	Chromium and chromium nickel alloys
Z-2	.....	.....	.....	.....	.....	.....	.....	.....	Unknown
Z-3	.....	.....	.....	.....	.....	.....	.....	.....	No comments
Z-4	.....	.....	.....	.....	.....	.....	.....	.....	No comments
Totals	18,898	20	1,000	100	2,050	40	930	23,658	

*Installations where alloys steels may be used.



RECENTLY ERECTED BY KELLOGG, this de Florez cracking unit is reforming a Mid-Continent straight run naphtha into gasoline of Ethyl standard knock rating.

THE M. W. KELLOGG COMPANY, 225 Broadway, New York, N. Y.

LOS ANGELES, CAL., 1031 SOUTH BROADWAY TULSA, OKLA., PHILTOWER BLDG.

KELLOGG

Kellogg Products include Cross, Holmes-Manley, and de Florez cracking units; de Florez furnaces and temperature control apparatus; pipe stills; heat exchangers; Pacific Centrifugal Pumps; absorption, stabilization, and treating plants; Masterweld pressure vessels; complete refinery and power plant piping.

distance from thoroughly equipped shops, using craftsmen trained for ordinary refinery construction work rather than specialists accustomed to the fabrication of alloys.

There has been some difficulty experienced by refiners using 18 per cent chromium, 8 per cent nickel alloy, in that leaky joints were encountered where this metal, with a coefficient of expansion different from that of steel, was rolled into steel junction boxes. In like manner, those refineries using 4 to 6 per cent chromium steel for outside line must consider its fabrication.

Refiner "J" reports;

"Field fabrication frequently involves welding. In the case of furnace tubing, upsetting or rolling may be used to seal and hold the tubes in the boxes. Air-hardening features, on the whole, are undesirable."

The refiner designed "M" states;

"It is probable that a large part of this type of material will be furnished in the form of furnace tubes which will be rolled into cast headers, and the ability of the metal to be rolled under field erection conditions is an important consideration. Metals that harden excessively under cold working would naturally give difficulty, and those that require special heat treating to give them their properties would also be unsatisfactory."

Refiner "V" reports;

"These are largely questions of degree. If an eminently satisfactory metal were available which did not combine ease of rolling and even tended to "work harden" rapidly, no doubt it would pay to use methods in the field which would overcome these differences. However, if the metal represented only a small step in advance over present materials, ease of rolling into header boxes, etc. would certainly weigh heavily in the decision as to whether or not we would use it."

Summarizing the subject of fabrication as presented by these replies, we find that 23 refiners and manufacturers resort to rolling in tubes, and stress the importance of the material being suitable for that purpose without work hardening. The material should not be air hardening, and its corrosion resistance should not be impaired by cold working.

Indications of Impending Failure

With carbon-steel tubes, certain indications are given which act as warnings of trouble that may arise, and afford them an opportunity to reduce the temperature, or, if necessary, cut pressure entirely and bring the unit out of service. One of these indications is the change of color of a hot tube which occurs to such an extent that a skilled eye can detect a hot spot sufficiently far in advance to prevent swelling and rupture. A skilled operator will detect the initial swelling of the tube prior to rupture.

With the use of 18 per cent chromium, 8 per cent nickel alloy tubes, these warnings are absent. Several severe fires have occurred by the sudden rupture of an alloy tube, no warning having been given the operator. In these cases the tubes burst open suddenly, rather than by a gradual swelling. In order to obtain the refiners' viewpoint on the desirability of the use of metals which swell gradually rather than rupture suddenly, they have been asked for comments, some of which follow;

Refiner "A" says;

"Failure in service will seriously endanger life and property and it is therefore highly desirable that the metal give warning by swelling before rupture. It is our practice to inspect all equipment closely at each shut-down and therefore avoid failures in service, but we consider the tendency of 18 per cent chromium, 8 per cent nickel alloy to burst at elevated temperatures without warning to be a very undesirable feature."

The refiner designated "J" reports;

"Service failures should not be permitted to occur, since they almost invariably involve damage to the property and endanger life. It is not imperative but desirable that the metal give warning of distress by swelling before rupture actually occurs.

"If the strength and serviceability of the material at high temperatures can be improved at the expense of this feature, then I would be inclined to waive it. Other things being equal, however, it is desirable to have a metal which swells."

Another operator (R) states;

"Failure of almost any metal in our service will constitute a potential danger to both life and property. In principle, we would consider that it is imperative for metal to give warning by swelling before rupture, and at the same time we must state that we have not seen a great number of fires eliminated by noting such a condition. We think that the answer to this question would be entirely dependent on the degree of increased size which would be termed 'swelling.'"

All refiners and manufacturers answering this question stated that it is desirable that the tube swell before rupture, four stating that it is not imperative, provided the material has other outstanding characteristics.

C. J. Tagliabue Mfg. Co., Park and Nostrand Aves., Brooklyn, N. Y., has incorporated improvements in its new snap case-front industrial thermometer. The snap case-front has been designed to make cleaning easy and to make breakage of the glass front almost impossible, the company says.

A tongue at the top of the case fits snugly in a groove in the front so that in either opening or closing the front it cannot slip and fall.

Other constructional features of the thermometer are that the glass is easy to read; a left-handed thread on bulb chamber which prevents loosening if case is turned in removing thermometer from socket; a connecting piece, locked to case by a split spring washer; asbestos packing; Monel bulb chamber thin enough to allow quick conductivity and mercury filling in bulb chamber surrounding bulb of thermometer insuring rapid transmission of heat.

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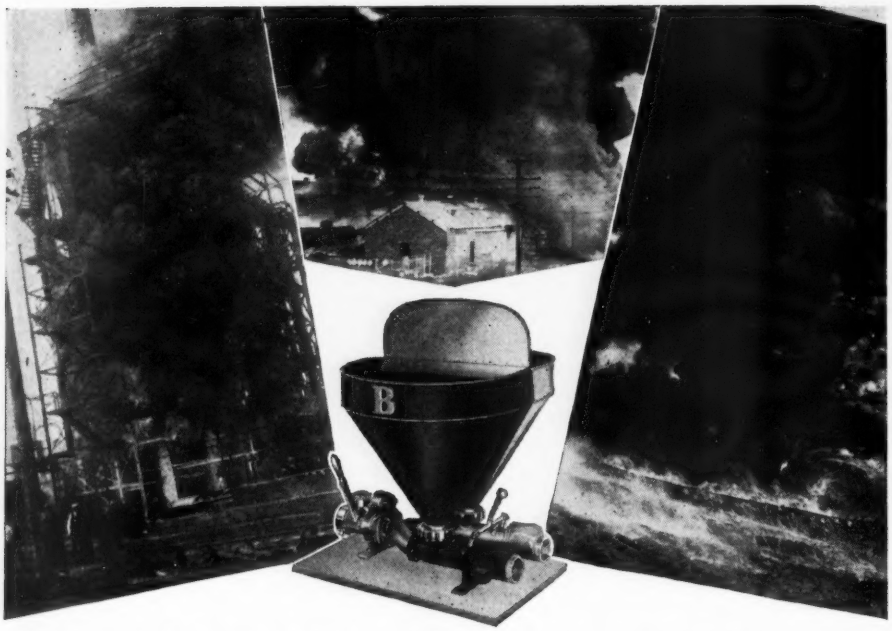

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On The Lazy Bench

"Yes, my friends," said the theological lecturer, "some admire Moses, who instituted the old law, some Paul, who spread the new. But after all, which character in the Bible has had the largest following?"

As he paused, a voice from the back bench shouted "Ananias."

—Loreco Diamond-Arknatco
Arkansas Natural Gas Corp.

* * *

Two druggists were talking about one of their confreres who had just died.

"He was a great druggist," said one.

"He was," admitted the other, "but don't you think he made his salads a little too salty?"

—Union Oil Bulletin
Union Oil Co. of California

* * *

A lady was entertaining the small son of a married friend.

"Are you quite sure you can cut your meat, Willy?" she asked, watching him a moment.

"Oh, yessum," he replied. "We often have it as tough as this at home."

—Loreco Diamond-Arknatco
Arkansas Natural Gas Corp.

* * *

"The only sensible road to prosperity is to live within our income," says an editorial. But few of us would care to be such misers.

—Union Oil Bulletin
Union Oil Co. of California

* * *

Customer (who has been given very underdone steak)—"I said 'Well done,' waiter."

Waiter—"Oh, thank you, sir! It's not many people who give us praise."

—Loreco Diamond-Arknatco
Arkansas Natural Gas Corp.

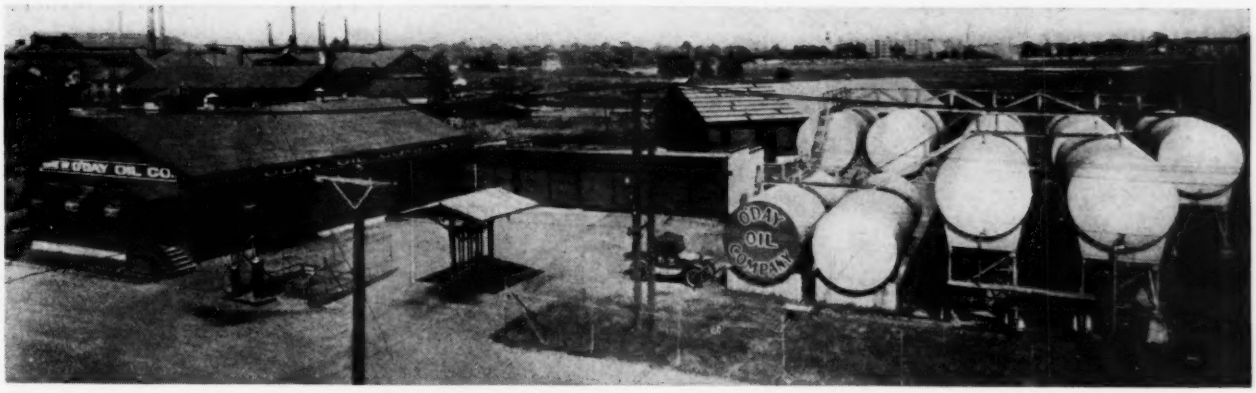
* * *

Henry Ford suggests children be paid for going to school. But he ought to make it clear that his plan does not mean time and a half for home work.

—Union Oil Bulletin
Union Oil Co. of California

* * *

"Hell," said the Devil as he answered the phone.



The gasoline truck loading rack is in the center of the yard at this marketer's plant. Note the wide drives for efficient handling of trucks

Laying Out and Equipping Loading Rack To Save Idle Truck Time

By E. L. Barringer

N. P. N. STAFF WRITER

CHICAGO

EFFICIENT operation of the gasoline truck loading rack can go a long ways towards conserving marketers profits.

There is a direct savings of goods through lessening evaporation losses. There is a savings through keeping trucks moving on the street delivering gasoline rather than tied up at the plant waiting for a load. Then there are benefits in safety to men and in lessening the chances for fire, which come from properly built and equipped loading racks.

Out of the experience of a number of mid-western marketers come several main points to form the essentials of efficient operation. These are the location of the loading rack in relation to storage tanks, the drives, and other buildings at the plant; an adequate number of valves of the correct type for economy in loading as well as for safety; and the correct size lines to insure maximum loading speed with the minimum of agitation of gasoline.

Obviously a marketer's ideas of efficient truck loading operations may be at variance with actual practice in his plant. This discrepancy has its foundation in the setup of his business. Possibly his plant is rather old, yet serviceable, so the marketer is laying up ideas against the day when he rebuilds. Or his bulk plant may be hedged with limitations of ground space, or financial resources, so it is necessary to make the most of available facilities.

Even in older plants a study of present conditions may show a way to greater economy through a realignment of facilities. A marketer in a large city, for example, is planning to reduce materially the time of unloading tank cars after having studied his plant. A new unloading line and pump will be required, he will not change his basic plant layout, but the time of unloading a tank car will be measured in minutes, not hours.

Where ground space is available at the plant a broad, circular drive from the truck gate to the gasoline loading rack is advisable. Then trucks can drive to the loading rack without interfering with movement of other automotive equipment in the plant.

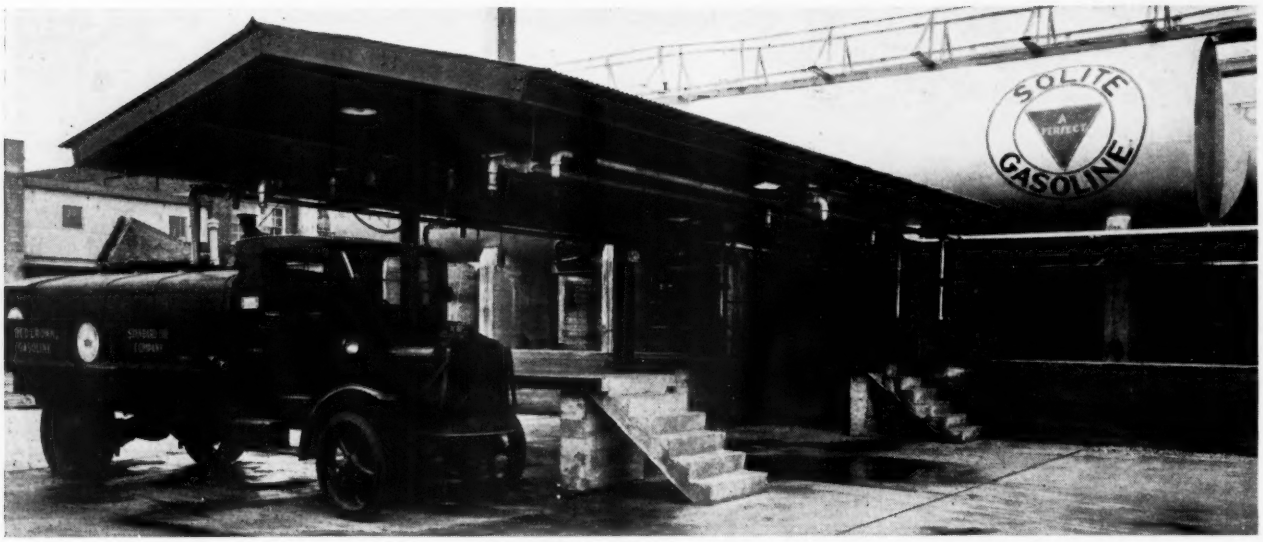
After the truck is loaded it can move ahead, out of the plant, without backing up or waiting for some other truck to move out of the way. The driver is always taking his truck forward, where he has the best view, and does not have to jockey around, with the possibility of ramming into another truck, some pipes, or the dike around the tank yard.

In many cities, and congested areas of smaller towns, the premium on land does not permit the luxury of wide drives in the plant. Movement of trucks must be fitted into the small space available. This point is well in mind when writing about wide drives as the most advantageous for efficient operation and for safety.

Drives at one of the newer plants of a major oil company, which in recent years has built many, illustrates the point. The inner court of the plant, completely paved, is rectangular in shape, with the buildings and tanks around the outer edges.

As we stand at the head of the court, at the truck gate, the gasoline loading rack is at the rear, almost in the center. To the right is the warehouse. To the left is the garage and office building for the drivers.

Along the side of the warehouse, on the court, is the truck loading platform. Trucks can



Truck loading rack at bulk plant of a major oil company. Note quick shut off valves on each line, and fire-proof construction of rack

pull up for drums or barrels of oil and package goods without blocking the way of gasoline trucks driving to the loading rack.

Thus, trucks can drive to the warehouse platform, pick up a load, and swing out again yet they are not near the gasoline loading rack. Similarly gasoline trucks can get to the rack and out again without interfering with activities at the warehouse dock.

A canopy usually is built over the loading rack. Employes, trucks, and rack equipment receive protection from the weather, yet by having just a roof there is no danger of trapping vapors. The entire canopy, including supports, settings, and walks, should be built of concrete and metal to avoid the fire hazard of flammable materials.

The number of drives at the rack is dependent of course on the size of the plant. A study of truck movement in the plant will indicate the advisability of one, two or more loading spots.

A plant with eight trucks, for instance, with inadequate facilities, may be forcing each truck to lose about an hour each daily in getting loaded. In other words these trucks are losing one work day each day. It may be more profitable to put in another loading rack than to have one truck laid up each day.

On each spot every grade of gasoline handled should be represented by its own private line. This will eliminate movement of trucks to get to all the lines. In this connection, all fuel oil lines should be separate from gasoline lines where possible.

The mistake of filling a truck compartment with low priced gasoline for high test gasoline may be disconcerting, and cause some trouble in pumping out the service station tank, but when a load of gasoline is dumped for fuel oil the results may be disastrous.

A marketer had an experience on this subject once that taught him a lesson. At his plant there was one gasoline line on the fuel oil truck rack. One day it happened. A driver dumped a compartment of gasoline for fuel oil at a home. Fortunately the error was caught before the fuel oil passed on to the burner. The tank was pumped out immediately, and the gasoline line was ripped out of that fuel oil rack in a hurry.

While the gasoline tank truck is being loaded the driver or rack employe, should have quick control of the flow of liquid. Some companies unloaded tank cars to overhead storage tanks, then let gasoline drain to the loading rack; or the gasoline is moved from storage to the rack by pumping. Whichever method is used the loader should be able to control the flow to prevent spills, for the sake of economy and safety.

If gasoline is moved through a pump, manifolds should be installed so the gasoline by passes through the pump in case the valve is shut off at the rack.

It is common practice to install a quick-action valve at the final L on the loading line.

The quick-action valve can stop the flow of gasoline through the line, but there should be other valves between the rack and the storage tanks.

In tracing the flow of gasoline from the tank, the first valve is inside or just outside the storage tank. This should be an automatic valve for stopping the flow in case of fire. One device melts under heat and automatically closes a valve. A variation of this principle is a valve just outside the tank that must be held open. A rope is fastened to the valve with a hook on one end and a weight on the other. In case of fire the rope burns, releasing the valve and it closes. Each morning the weight is hooked to the valve, and removed at night.

Then there should be at least one hand valve on the line, between the automatic shut off valve at the storage tank and the quick-action valve at the loading rack. In case the tank yard is some distance from the loading rack it would be advisable to have one hand valve near the tanks and another at the rack.

Such an arrangement of valves has a practical value in promoting safety at the plant. In case of fire the automatic valve in or at the tank shuts off the gasoline. The driver has control with the quick-action valve in loading a truck. In case of a pipe failure, or leak, the hand valve comes into play.

BUTLER BUTT-WELDED STORAGE TANKS

THIEF-PROOF
EVAPORATION
PROOF—
MINIMIZED
FIRE AND
EXPLOSION
HAZARD

YEARS AHEAD IN CONSTRUCTION

WHY hasn't it been done before? It has, in part. Shell seams of Butler tanks have been butt-welded for a number of years. But to Butt-weld shell to heads required precision machinery of which there was none. It remained for Butler engineers, who rocked the cradle of the welded tank, to conceive and build—first, machinery to form precision fitting sections—second, pneumatic templates to hold the precision fit in perfect alignment during the welding process.

Now, for the first time—Butler Butt-welding gives you bottle-smooth construction in storage tanks. Head flanges are drawn on a 1-inch radius. This avoids sharp bending where the tank is most subject to stresses and corrosive action.

TESTED AT 5 POUNDS PRESSURE—Butler Butt-welding gives you storage tanks built and tested to withstand 5-pound pressure and recommended for storage of gasoline and oil at 1-pound pressure. Butler 1-pound pressure vents are supplied at nominal extra cost.

PREVENT EVAPORATION LOSSES—Stored under pressures up to 1 pound practically no loss of gasoline can occur through evaporation. Vapors are retained without extra apparatus or attachments.

SAFEGUARDED AGAINST FIRE—Both normal venting and emergency venting as well as fire screening are all compactly provided for in the new Butler manhole. Fire is stopped at the vents. The fire hazard is reduced to the minimum.

GUARANTEED 5 YEARS—For the first time, we believe, Butler Butt-welding brings you storage tanks backed by an unconditional guarantee of repair or replacement should defective workmanship or materials develop within 5 years. For all these extra values you pay no premium. They more than offset any freight haul from our centrally located factories. Write for new Butt-welded storage tank booklet and our proposals on your requirements.

THE NEW BUTLER THIEF-PROOF, QUICK OPENING MANHOLE

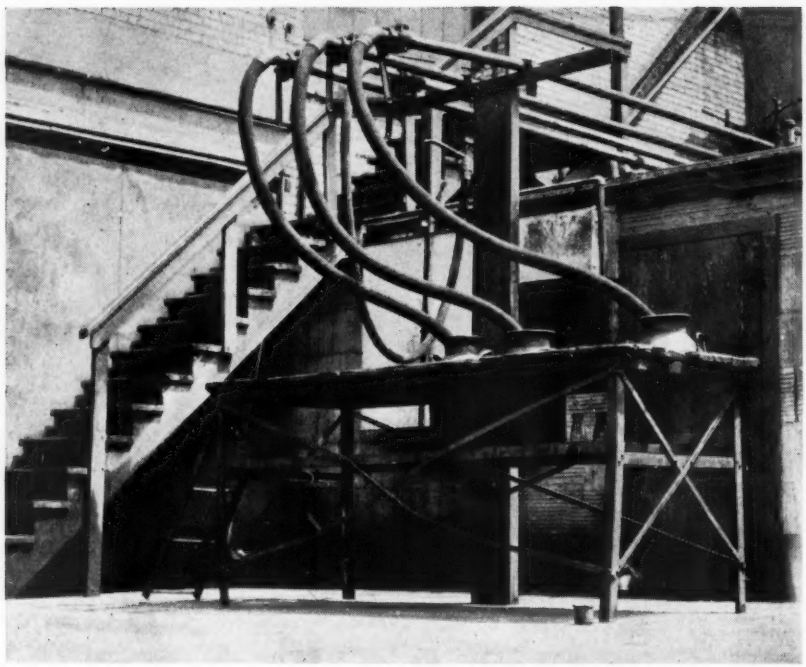
PAT. PENDING.

It's the one you have long wanted. Steel dome cover is clamped tightly down on collar by inside hinged bolts and lugs. Easily removed by reaching through 6-inch handhole Handhole cap is hinged to dome. Three clamps hold it vapor-tight. Fulcrum which operates clamps is adjustable. Its operating lever may be padlocked, making entire mahhole thief proof. Dome cover is bored for 2-inch vacuum and pressure vent, which may be locked against turning out. Also in dome cover is 4-inch thief-proof, fire-screened emergency vent with fusible section.

BUTLER MANUFACTURING COMPANY

1241 Eastern Ave.
Kansas City, Mo.

941 Sixth Ave., S. E.
Minneapolis, Minn.



Gasoline draining from the line is not wasted at this bulk plant. Five gallon cans are sunk in the floor of the gasoline truck loading rack, so they will not be kicked over, and the hose left to drain after filling a truck

Then there is the value of keeping employes from acting on instinct.

The efficient driver or plant employe will know the piping by heart. Possibly he could work blindfolded, but there are times when it is better to act from thinking rather than instinct. The work of having to open and close various sets of valves each morning and evening on the lines promotes working by thinking.

Good practice dictates that all lines and valves throughout the plant as well as on the loading rack should be marked. The common practice is to assign a color to each commodity passing through the plant. Red of course is the traditional designation for some grade of gasoline.

As an example let us assign purple to the commercial grade of gasoline. Then every place where there is a turn in the line for this grade the fitting will be painted purple; this goes for the line from the tank car unloading rack, through the pump house, to storage tanks, and down to the loading rack.

These colors are permanently reserved so anyone, knowing the color scheme, could trace the flow of any commodity through the entire plant. In connection with the painting of all fittings it is a practice also to paint an arrow on the pipe showing the direction of flow.

Some companies paint the entire line, fittings and the pipe solidly, with the color of the commodity handled.

Valves are tagged, preferably with metal for permanency, to show what commodity passes through. One major company stencils this information also on the line at the valve as a double safeguard against error.

With lines marked by color, either at fittings or all along the pipe, and valves tagged the chances for errors are reduced to a minimum. No one employe knows the complete piping layout, it is open to all.

On this same subject, many marketers favor having all lines above ground. As one marketer put it, everything is in the open. In case of a leak there is no need to look up the man who knows the layout by heart. Anyone can trace through the lines and find the trouble.

The size of pipe on the truck loading rack usually is 2½ or 3 inches. This permits filling a truck at the rate of 100 to 150 gallons a minute. It would seem possible to reduce the time for truck filling by going to a larger sized pipe, but the agitation of gasoline with its resultant loss through vapors must be considered.

To reduce the loss of vapors one marketer uses a length of hose, the same size as his lines, which extends to the bottom of the truck compartment. The hose is permanently attached to the fill line. At the open end is a brass coupling to reduce the hazard of sparking.

Another company uses a galvanized iron spout. This fits over the open end of the fill line into the compartment.

One marketer uses galvanized spouts on tank car loading racks with the bottom flared, 3 inch diameter at the top and 4 inches at the bottom for example, to lessen agitation and consequent evaporation.

For ease in handling hose on the end of a fill line some marketers counterbalance it with weights. A sash weight, or heavy piece of metal, is connected to the hose with a rope, and the weight works on pulleys along a support of the rack canopy.

Some marketers have occasion to fill small containers, usually five-gallon cans, with gasoline at the bulk plant. To handle these sales a set of small fill lines, tapped from the main truck piping, is placed on the loading rack or in the pump house. The small line may be 1 or 1½ inch pipe, with a quick action shut off valve at the end, and also a hand valve.

The small cans to be filled stand on the rack, or on the pump house floor, and the gasoline put in direct from the pipe, or with a length of hose.

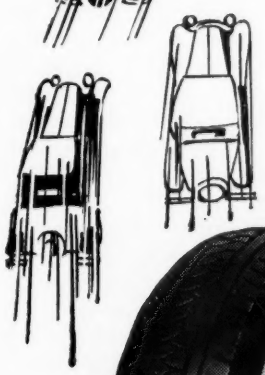
While the marketer is looking at his gasoline truck loading equipment from the viewpoint of economy in operation, he also keeps an eye on the safety features. The proper grounding of trucks at the gasoline rack is important. One of the major companies lists this as the first task of loading trucks.

The drag chain has to reach the ground. In addition the truck is grounded through the loading rack. Part of the rack equipment are wires, operated on pulleys, with clamps on the end.

A clamp is placed over the knob on the truck tank, thus grounding the truck through the

These Low Tire Prices STOP MOTORISTS

PHARIS RETAIL PRICES		PHARIS RETAIL PRICES	
29 x 4.40	$4.98	31 x 5.00	$7.35
30 x 4.50	5.69	31 x 6.00	11.45
28 x 4.75	6.65	32 x 6.00	11.50



1st Line Quality and *Unusual Guarantee* SELL THEM

Where prices on commodities have been adjusted to a lower level, active buying is in evidence. This is particularly true of tires.

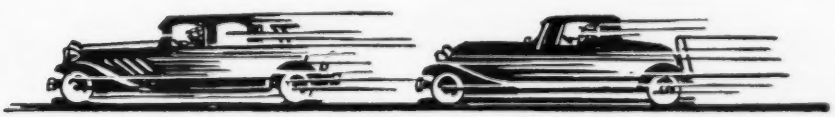
Motorists have been driving their cars far beyond the usual mileage of former years, and while "the old car" still runs, *tires wear out eventually.* It has been proved, too, that good tires at low prices are selling.

And, filling stations can get this business if they have the tires with real quality, a *broad guarantee* and prices that compete with any source of supply anywhere.

PHARIS TIRES ARE MADE-TO-ORDER FOR FILLING STATION SALES

because the quality is up (first-line only) . . . the prices are 'way down . . . the guarantee is unusually generous and is lived up to, promptly, by the factory.

PHARIS gives you a profit you cannot afford to be without. PHARIS is oil-company minded, in harmony with your type of business.



PHARIS 1st LINE TIRES

The PHARIS TIRE & RUBBER Co.

NEWARK, OHIO

frame of the rack. This ground extends three feet into the earth.

The electric equipment on the rack may come in for inspection also as any defects here can offset all precautions of marked lines, fire-proof materials on the rack, and correct valves.

In case gasoline is moved from storage to the rack by motors all switches should be of the oil-immersed type to prevent sparks. The pump house should be well ventilated. There should be plenty of openings at floor level to prevent vapors settling into pockets that could be ignited at the first spark.

All electric wires on the rack, as well as throughout the plant, should be in conduits. And all electric lights should be enclosed in vapor proof globes.

Quick-Fitting Couplings, Larger Tanks Aid Quicker Truck Unloading

CHICAGO

A LITTLE study of unloading operations of gasoline at service stations may result in substantial savings for the marketing company. This observation was made by a southern jobber as part of a general statement that oil marketers can make a large number of savings by close attention to details of their business.

For his company, a 1500-gallon semi-trailer now delivers about 100,000 gallons a month, in place of 60,000 to 75,000 gallons. Another semi-trailer is to be added to the fleet, and the two semi-trailers are expected to deliver about 300,000 gallons of gasoline a month on city routes.

Larger storage tanks at stations, and quick fitting couplings made possible these changes for more efficient operation.

At the company owned service stations and at lease and agency outlets larger storage tanks were insulated. The agency outlets were included, as this company considers these stations, from an operating standpoint, in the same light as its own stations.

Quick fitting couplings were used to connect the hose from the truck to the fill pipe to obtain full capacity of the unloading equipment. With a nozzle stuck in the fill pipe a bottle neck is created, as the flow of gasoline from the hose is retarded to the size of the nozzle. The quick fitting coupling eliminated a reduction in size of the opening at the connection of the hose with the fill pipe.

This jobber also speeds up the unloading operation by having the truck dump three compartments at once. Eleven more stations were added to the route of a semi-trailer, as this change gave the truck another hour and a half's working time daily.

Where a marketer has large gallonage stations, underground storage tanks in the thousands of gallons can be installed, and trucks routed to dump full loads at these stations. Three-inch fill pipe can be installed for quick dumping.

Even if the marketer does not have conditions such as these in his distribution system the disadvantages of a truck meeting various sized fill pipes on a given route can be overcome.

Obviously the marketer has to make the best of present equipment and facilities, but some study may show where a few changes that can be made will speed up deliveries.

Take the case of one big midwestern marketer. Most of the storage tanks at his dealer outlets had 2-inch fill pipes. His truck routes could not be segregated so one truck would handle all the 2-inch pipes, another the 2½-inch, and another the 3-inch pipes. The trucks went down the street, taking all the customers as they came.

Consequently this marketer was limted to 2-inch lines for unloading the truck in order to fit the fill pipes of the smallest diameter. But this handicap to speedy unloading was overcome at the company's own stations.

Just above the storage tank at company stations, a section of 3-inch pipe was installed, with a Y, and two 2-inch lines leading to the surface. Thus the truck, equipped to dump from a 2-inch line at dealers, could handle the company stations, still using 2-inch lines, but dumping two compartments at once into the same tank.

Another marketer in the middle west overcame a somewhat similar condition by this method, with a variation in the equipment. He, too, had to have 2-inch hose on the truck for dealers, but wanted speedier deliveries where possible.

This marketer equipped his trucks with 2-inch hose, but at the company's stations a 5-inch fill pipe was installed. Now the truck driver puts the nozzles from two 2-inch hoses into the fill pipe and unloads two compartments at once.

The DeVilbiss Co., Toledo, Ohio, is introducing a light duty gas engine driven spray-painting outfit. The unit is known as NH606. It is designed for light or small work at points where electricity is not easily available, and can be operated by one person. The outfit consists of one DeVilbiss spray gun, 20 foot length air hose and connections, one 12-foot length braid covered hose and connections; one 12-foot length DeVilbiss fluid hose and connections, one two-gallon paint tank and one half-horsepower gas engine driven compressing equipment mounted on a hand truck.

* * *

Republic Steel Corp., Youngstown, has recently issued three new booklets.

"Sheet Iron—A Primer," 64 pages, illustrated, tells in nontechnical language the story of iron working and modern commercial practice of sheet rolling.

"Toncan Iron Pipe for Permanence," 64 pages, illustrated, describes installations and applications of Copper Molybdenum Iron Alloy Pipe.

"Agathon Alloy Steels," 132 pages, illustrated, gives recent authoritative data on alloy steels.

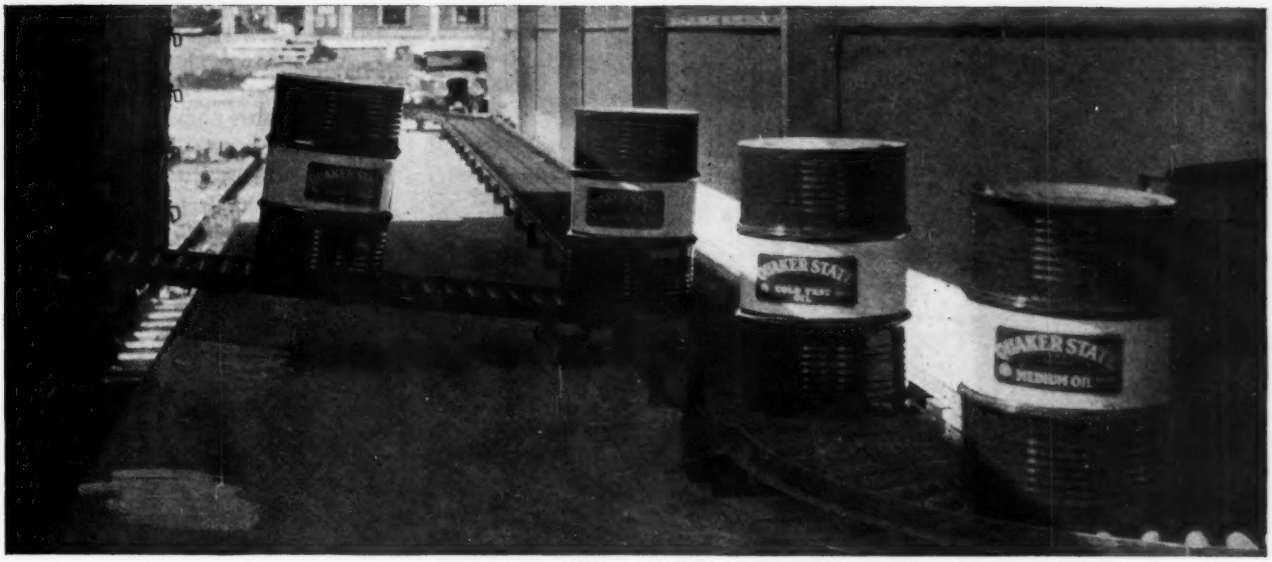


Fig. 1—Automatic conveyor system for unloading empty drums from freight cars at the barreling plant of the Quaker State Oil Refining Co., at Bradford, Pa.

Automatic Conveyors for Drums and Cases Reduce Handling Costs

By C. E. Gobeil*

THE Quaker State Oil Refining Co. uses a complete automatic conveyor system for drums and cases at its new barrel house at Bradford, Pa. This building is a two-story brick structure, with a receiving and shipping platform about 10 feet wide running the entire length of the building and extending on both ends far enough to accommodate nine cars at one time.

As the empty drums are unloaded they descend on a portable section of gravity roller conveyor. This conveyor consists of steel rollers inserted in framework. The rollers, which are placed at regular intervals, revolve freely because in each end is a ball bearing packed in light grease.

A slight decline permits the drums to travel by their own weight to a horizontal conveyor, which is attached to the platform with iron "legs" lagged to the concrete. This horizontal conveyor looks as if it were of the same type as the gravity roller conveyor but upon close inspection develops to be somewhat different. The rollers are set quite closely together and are constantly in motion. This continuous motion is effected by a belt, running underneath the rollers and engaging each one so as to make it revolve. This constant motion of the rollers causes any article placed on them to travel along the top of the conveyor.

Immediately when an oil drum comes in contact with the "live" rollers, as they are called, its direction of travel is changed to a right angle movement. They are then carried, see Fig. 1, to a curved section of conveyors. This curve is another section of gravity which takes the drums into a shed along one end of the building. The drums continue to travel by gravity about 20 feet in this shed and then make a right angle turn into the building.

The empty drums are kept in storage on the second floor. To bring them automatically to this floor a vertical, continuous elevator is used. After the drums enter the building they travel to the elevator on a short section of gravity. Each drum is held in place at the end of the section by an automatic loading device until one of the elevator carriages, consisting of large iron fingers, comes from underneath and lifts the drum. The carriage is fastened firmly at both sides to arms which, in turn, are attached to two pins fixed to two continuous moving chains. The chains are driven by large sprocket wheels at the top of the elevator.

In Fig. 2 the elevator is seen in operation. A drum has just been delivered to a gravity conveyor line on the second floor; another drum has just come over the top of the elevator and is about ready to be set on the gravity section. This elevator is capable of lifting six drums a minute. At the top of the elevator is a safety device that op-

*Standard Conveyor Co., North St. Paul, Minn.

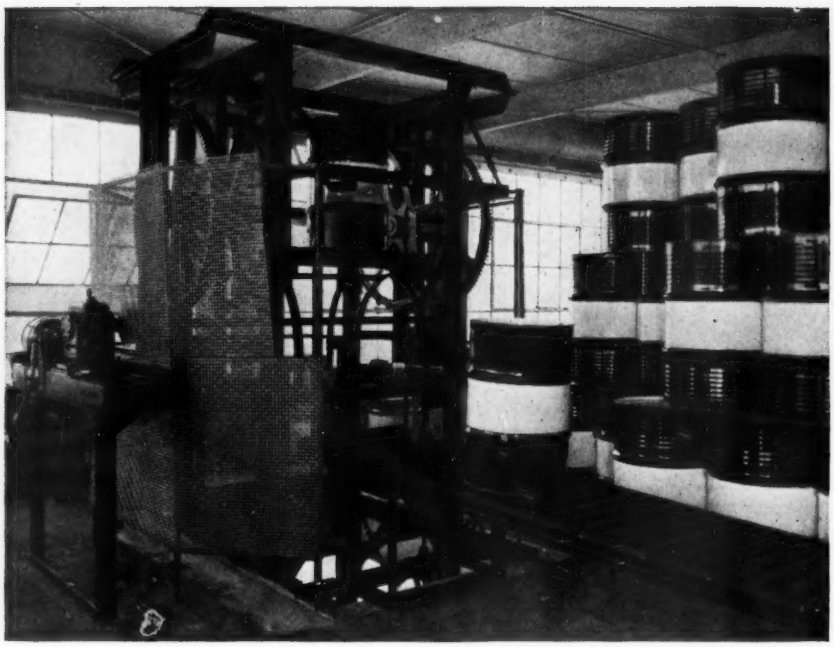


Fig. 2—Automatic elevator which lifts empty drums from conveyor on first floor to second floor where the drums are stored

erates to stop the machine in case the gravity line fills up and the drum which has been unloaded last does not descend along the line. If the drum stays in position after being unloaded, the safety lever stops the elevator until the line is cleared and the drums descend in a normal manner. The drums are taken off the gravity line and then stenciled and stored on this floor.

When ready for filling the travels of the drums present another interesting feature. Through the middle of the second floor is another gravity conveyor line. The empty drums are placed on this line and travel to a "drop" elevator, which lowers them automatically to another gravity line on the first floor.

The "drop" elevator consists of a single counterweighted carriage, installed in suitable framework, which normally rises when empty to position on the second floor. It stays in the top position until a drum from the gravity line on the second floor rests on it. The weight of the drum then lowers the carriage to position on the first floor where the drum travels by gravity down the line. A safety stop is incorporated into the elevator at the second floor, which does not permit any drums to travel further until the carriage has returned from the first floor.

After the drums have been lowered by the "drop" they travel by gravity about 40 feet to a point adjacent to the automatic filling meters. Under each meter is a gravity section of conveyor about 10 feet long. The filling sections are placed about two feet apart. The operator stands in this "two-foot" space. Each filling line will accommodate four of the 55-gallon drums—two empties, one filling and one beyond the filling meter being capped. The operator after "capping" each barrel gives it a slight push and it travels to a "live" roller conveyor.

Fig. 3 shows two drums coming down the "live" roller line. The first drum is ready to be delivered to a gravity curved conveyor. After traveling through the door in the building wall on the 90 degree curve the drums are transported, by another "live" roller conveyor, down the platform to a point opposite the car which is being loaded. At this point, where the filled drums are to be delivered into the cars, a diverter is placed to change the direction

(Continued on page 89)

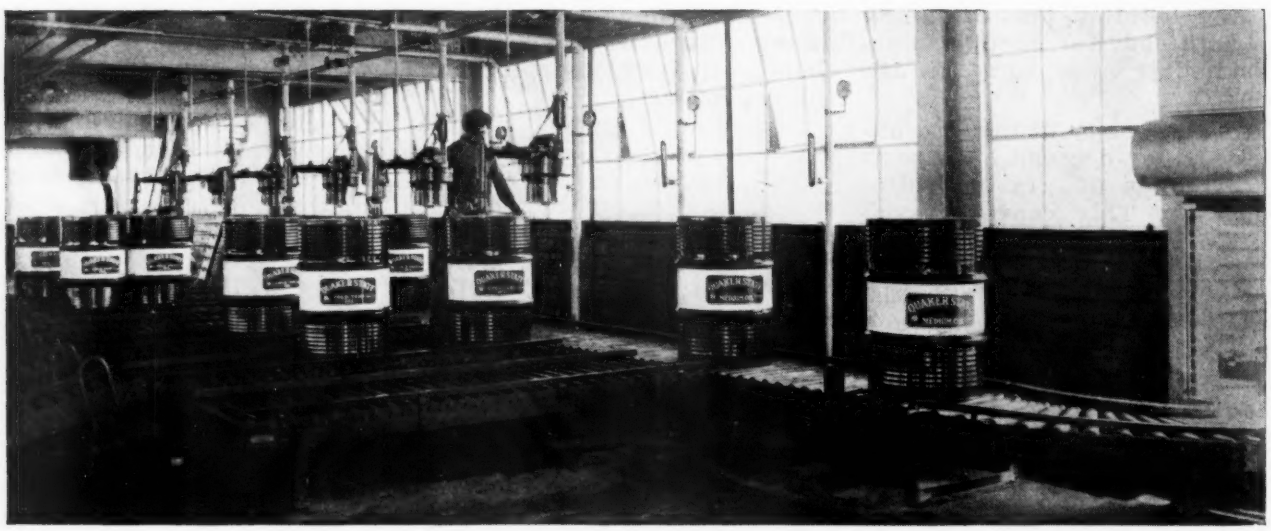


Fig. 3—Arrangement of the conveyor system in the filling department, gravity sections about 10 feet long leading to the automatic filling meters. The two drums at the right, filled, are being automatically conveyed to the outside loading platform, where gravity conveyors direct them into the cars

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Crude Production by Fields

By Telegraph—Daily average gross output, by fields in U. S., for week ending with dates below as compiled by A. P. I.

PRODUCTION SUMMARY

	July 4	June 27
Production East of the Rockies	1,975,900	1,932,450
Increase		43,450
Total production in U. S.	2,482,500	2,441,950
Increase		40,550
Crude oil imports	151,145	115,145
Increase		36,000
Total new crude supply	2,633,645	2,557,095
Increase		76,550

OKLAHOMA

	July 4	June 27
Allen Dome	11,300	11,650
Asher	650	650
Asher, West	7,100	6,750
Blackwell	2,950	2,900
Bowlegs	12,650	15,000
Braman	2,000	2,000
Bristow-Slick	12,800	12,850
Burbank	13,150	13,150
Carr City	10,800	12,350
Cromwell	5,650	5,600
Cushing	12,950	13,000
Davenport	900	950
Duncan Dist.	7,200	7,200
Earlsboro	17,150	17,800
Earlsboro	15,300	16,350
Earlsboro, So.	5,100	5,050
Garber	3,700	3,700
Graham	4,100	4,100
Healdton	11,450	11,450
Hewitt	6,150	6,150
Hubbard	1,000	1,000
Konawa	6,300	7,900
Little River	23,100	23,300
Little River, E.	5,000	5,250
Logan Co.	3,750	3,750
Maud	2,050	2,400
Mission	6,700	8,500
Oklahoma City	214,450	155,500
Okmulgee, No.	8,850	9,050
Okmulgee, So.	5,300	5,300
Osage (Outside Burbank)	21,950	21,950
Papoose	2,050	2,050
Pearson	650	600
Sasakwa	2,350	2,300
St. Louis	20,400	21,300
Scholem-Alechem	13,750	13,800
Searight	4,000	4,450
Seminole	12,950	13,350
Seminole, East	1,500	1,650
Thomas	600	550
Tonkawa	5,650	5,600
Wewoka	9,700	9,500
Yale-Jennings	5,900	5,950
Others	50,600	50,650
Total, Okla.	591,600	544,300
Increase		47,300

KANSAS

August-Fox Bush	2,650	2,700
Churchill	3,150	3,100
El Dorado-Towanda	12,600	12,550
Florence-Covert	800	800
Greenwood Co.	15,450	15,450
Oxford	2,100	2,100
Peabody-Elbing	2,250	2,250
Rainbow Bend	1,350	1,400
Ritz	5,500	5,650
Russell	3,400	3,400
Sedgwick Co.	15,550	15,250
Voshell	16,850	16,350
Others	21,500	21,100
Total, Kans.	103,150	102,100
Increase		1,050

NORTH LOUISIANA

Caddo, light	7,050	7,050
Caddo, heavy	2,700	2,700
Cotton Valley	700	900
De Soto and Red River	2,550	2,550
Haynesville	5,400	5,500
Holly	500	450
Homer	3,100	3,100
Sarepta Carterville	1,000	1,000
Urania	4,100	4,100
Zwolle	7,100	7,200
Others	1,000	1,150
Total, N. La.	35,200	35,700
Decrease		500

ARKANSAS

Champagnolle	2,650	2,700
El Dorado	3,500	3,500
Lisbon	700	700
Nevada	1,200	1,200
Smackover, light	4,050	3,900
Smackover, heavy	29,300	30,050
Stephens	750	750
Others	1,750	1,400
Total, Ark.	43,900	44,200
Decrease		300

ROCKY MOUNTAIN

Wyoming

Big Muddy	1,900	1,850
Elk Basin	700	500
Grass Creek	2,050	2,050
Labarge	1,200	1,600
Lance Creek	300	200
Lost Soldier	3,100	3,100
Oregon Basin	2,050	1,450
Rock River	1,950	1,900
Salt Creek	24,800	24,300
Others	4,050	3,200
Total, Wyo.	42,100	40,150
Increase		1,950

Montana

Cat Creek	1,000	1,000
Pondera	1,650	1,000
Sunburst	4,600	4,400
Others	1,000	1,200
Total Mont.	8,250	7,600
Increase		650

Colorado

Florence	400	450
Fort Collins	1,000	1,000
Moffat (Craig)	850	900
Others	2,300	2,300
Total, Colo.	4,550	4,650
Decrease		100

New Mexico

Artesia	650	650
Bal. Eddy Co.	200	200
Hobbs High	38,300	37,800
Bal. Lea Co.	4,100	4,300
Hogback	500	500
Rattlesnake	900	1,000
Table Mesa	100	100
Total, N. M.	44,750	44,550
Increase		200
Total, Rocky Mountain	99,650	96,950
Increase		2,700

TEXAS (OUTSIDE GULF COAST)

Panhandle District

	July 4	June 27
Carson Co.	5,700	5,900
Gray Co.	46,100	41,900
Hutchinson Co.	12,300	10,200
Wheeler Co.	350	200
Others	1,750	1,250
Total, Panhandle Tex.	66,200	59,450
Increase		6,750

North Texas

Archer Co.	13,000	12,900
Burkburnett	6,550	6,600
Electra	9,700	9,750
Iowa Park and K. M. A.	3,600	3,500
Montague-Cooke	5,200	5,200
Wilbarger	11,900	12,000
Young Co., No.	9,200	9,200
Others	1,200	1,200
Total, N. Tex.	60,350	60,350

East Central Texas

Boggy Creek	1,750	1,850
Corsicana-Powell	4,000	3,800
Currie	300	300
Mexia	3,500	3,200
Nigger Creek	150	100
Richland	100	50
Van Zandt	50,400	49,950
Wortham	500	500
Others	50	50
Total, E. Cen. Texas	60,750	59,800
Increase		1,750

East Texas

Rusk County:		
Joiner field	112,350	114,400
Kilgore	144,650	163,100
Gregg County:		
Longview	94,950	82,200
Total, E. Tex.	351,950	359,700
Decrease		7,750

Southwest Texas

Chapmann		
Abbot	2,800	2,900
Dale	250	250
Darst Creek	19,400	20,650
Laredo Dist.	13,000	13,000
Luling	8,000	8,100
Lytton Spgs.	700	700
Salt Flat	12,050	11,500
Somerset	1,200	1,200
Others	350	350
Total, S. W. Texas	57,750	58,650
Decrease		900
Total, Texas (Outside Gulf Coast)	830,500	837,350
Decrease		6,850

GULF COAST

Coastal Texas

Barbers Hill	21,800	21,150
Batson	950	900
Big Creek	2,450	2,500
Blue Ridge	1,050	1,100
Boling	800	900
Damon Mound	1,000	1,050
Esperson	1,900	1,750
Fannett	500	500
Goose Creek	4,250	4,300
Hankamar	2,000	1,950
Hull	6,100	6,050
Humble	8,500	9,050
Moss Bluff	300	350
No. Dayton	950	750
Orange Co.	1,650	1,650
Orchard	1,200	1,250
Pettus	6,400	6,600
Pierce Junct.	8,500	8,750
Port Neches	1,250	1,300
Raccoon Bend	7,300	7,350
Refugio Co.	26,500	27,550
Saratoga	1,100	1,100
Somerville	1,150	1,200
Sour Lake	1,800	1,800
So. Liberty	1,800	1,900
Spindletop	8,050	8,600
Sugarland	11,800	11,100
West Columbia	4,100	4,100
Others	4,400	3,450
Total, Coastal Texas	139,550	140,000
Decrease		450

West Central Texas

Brown Co.	4,000	4,000
Callahan Co.	2,400	3,000
Coleman Co.	2,500	2,300
Eastland-Desdemona	4,100	4,100
Jack Co.	2,100	2,000
Palo Pinto Co.	400	400
Shackleford Co.	2,900	4,000
Stephens Co.	4,800	4,800
Throckmorton Co.	500	500
Young Co., So.	3,650	3,550
Others	900	900
Total, West Cen. Texas	28,250	29,550
Decrease		1,300

West Texas

Crane and Upton Cos.	20,250	21,000
Crockett Co.	1,500	1,550
Ector Co.	5,900	6,300
Howard Co.	29,000	29,900
Jones Co.	1,200	1,200
Mitchell and Scurry Cos.	1,600	1,900
Reagan Co.	24,900	*27,300
Winkler Co.	41,200	42,400
Yates	70,700	*68,550
Bal. Pecos Co.	3,200	2,900
Others	5,800	6,850
Total, West Texas	205,250	209,850
Decrease		4,600

*Revised.

Coastal Louisiana

Edgerly	300	300
Evangeline	700	700
Hackberry, E.	700	750
Hackberry, Old	700	700
Lake Barre	1,600	1,750
Lockport	5,950	5,600
Port Barre	1,150	1,200
Sulphur Dome	1,100	1,150
Vinton	5,650	5,700
White Castle	700	700
Others	5,150	4,700
Total, Coastal La.	23,700	23,250
Increase		450
Total, Gulf Coast	163,250	163,250

CALIFORNIA

Dominguez	11,400	11,200
Elwood-Goleta	26,000	25,600
Huntington Beach	18,300	20,700
Inglewood	14,000	13,200
Kettleman Hills	70,200	60,500
Long Beach	75,200	76,500
Midway-Sunset	48,700	49,000
Playa del Rey	24,600	25,300
Santa Fe Spgs.	62,200	63,700
Seal Beach	9,800	11,400
Ventura Ave.	39,900	40,300
Others	106,300	112,100
Total, Calif.	506,600	509,500
Decrease		2,900

EASTERN

(Not including Michigan)	100,750	100,750

MICHIGAN

Mt. Pleasant	6,050	6,000
Muskegon	1,700	1,700
Saginaw	150	150
Total, Mich.	7,900	7,850
Increase		50

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations, Week Ended July 3 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended July 3
Plants Reporting	10	23	23	10	10	76
Da. Av. Cap. (bbls.)	94,000	162,500	107,400	71,500	60,700	496,100
Da. Cracking Capacity	53,200	64,600	23,100	26,250	31,700	198,850
Da. Av. Crude Runs	72,221 + 7.0	108,352 + 0.9	60,940 — 6.7	15,082 — 42.7	44,786 — 11.5	301,381 — 4.9
Da. Av. Other Oil	7,304 + 66.6	3,115 — 45.8	2,804 + 45.9	569 — 63.3	17,926 + 4.2	31,718 + 3.0
GASOLINE—Gallons						
Stocks, June 26	21,728,000	46,577,000	21,608,000	19,341,000	3,877,000	113,131,000
Prod. 6-26 to 7-3	12,685,000 + 8.3	17,757,000 — 1.9	8,864,000 — 11.5	1,513,000 — 48.9	6,857,000 — 7.7	47,676,000 — 5.1
Ship. 6-26 to 7-3	17,157,000 + 9.9	22,802,000 + 29.4	12,367,000 — 6.6	3,326,000 + 34.7	7,319,000 — 3.5	62,971,000 +11.4
Stocks, July 3	17,256,000 — 20.6	41,532,000 — 10.8	18,105,000 — 16.2	17,528,000 — 9.4	3,415,000 — 11.9	97,836,000 —13.5
Ratio Sales to Prod.	135.3%	128.4%	139.5%	219.8%	106.7%	132.1%
KEROSINE—Gallons						
Stocks, June 26	9,765,000	14,162,000	2,178,000	29,000	1,170,000	27,304,000
Prod. 6-26 to 7-3	2,335,000 + 7.2	1,601,000 — 15.2	877,000 + 1.6	....	1,561,000 +183.3	6,374,000 + 16.5
Ship. 6-26 to 7-3	1,951,000 + 26.1	2,207,000 + 8.8	466,000 — 43.7	....	1,530,000 +199.4	6,154,000 + 25.0
Stocks, July 3	10,149,000 + 3.9	13,556,000 — 4.3	2,589,000 + 18.9	29,000	1,201,000 + 2.6	27,524,000 + 0.8
Ratio Sales to Prod.	83.6%	137.8%	53.1%	. .	98.0%	96.5%
STOVE DISTILLATE—Gallons						
Stocks, June 26	1,655,000	8,406,000	432,000	65,000	34,000	10,592,000
Prod. 6-26 to 7-3	464,000 + 16.6	1,127,000 + 43.6	116,000 — 2.5	... ...	40,000 — 56.0	1,747,000 + 25.4
Ship. 6-26 to 7-3	305,000 — 29.7	316,000 — 3.7	161,000 — 46.0	10,000 — 9.1	43,000 — 53.8	835,000 — 30.5
Stocks, July 3	1,814,000 + 9.6	9,217,000 + 9.6	387,000 — 10.4	55,000 — 15.4	31,000 — 8.8	11,504,000 + 8.6
Ratio Sales to Prod.	65.7%	28.0%	138.8%	. .	107.5%	47.8%
GAS OIL—Gallons						
Stocks, June 26	5,668,000	43,772,000	4,649,000	4,700,000	10,187,000	68,976,000
Prod. 6-26 to 7-3	961,000 + 16.6	2,416,000 + 17.0	—512,000	291,000 — 14.7	1,269,000 — 20.2	4,425,000 — 11.5
Ship. 6-26 to 7-3	544,000 — 0.2	1,067,000 +209.3	349,000 — 22.1	1,098,000 +308.2	990,000 + 43.9	4,048,000 + 76.4
Stocks, July 3	6,085,000 + 7.4	45,121,000 + 3.1	3,788,000 — 18.5	3,893,000 — 17.2	10,466,000 + 2.7	69,353,000 + 0.5
Ratio Sales to Prod.	56.6%	44.2%	.....	277.3%	78.0%	91.5%
FUEL OIL—Gallons						
Stocks, June 26	15,657,000	61,006,000	68,548,000	33,282,000	20,167,000	198,660,000
Prod. 6-26 to 7-3	6,531,000 + 9.3	5,762,000 — 18.9	7,437,000 — 0.8	1,337,000 — 61.7	5,064,000 — 8.2	26,131,000 —11.7
Ship. 6-26 to 7-3	5,195,000 +356.1	4,240,000 — 26.5	4,489,000 — 19.5	3,288,000 + 86.9	5,265,000 + 12.4	22,477,000 +18.7
Stocks, July 3	16,993,000 + 8.5	62,528,000 + 2.5	71,496,000 + 4.3	31,331,000 — 5.9	19,966,000 — 1.0	202,314,000 + 1.8
Ratio Sales to Prod.	79.5%	73.6%	60.4%	245.9%	104.0%	86.0%

Gasoline Produced by Various Methods, Week Ended July 3

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	7,598,000	59.9	11,356,000	64.0	5,401,000	60.9	1,376,000	90.9	3,009,000	43.9	28,740,000	60.3
Cracked	4,306,000	33.9	5,041,000	28.4	2,423,000	27.3	87,000	5.8	2,932,000	42.8	14,789,000	31.0
Natural	781,000	6.2	1,360,000	7.6	1,040,000	11.8	50,000	3.3	916,000	13.3	4,147,000	8.7
Total	12,685,000		17,757,000		8,864,000		1,513,000		6,857,000		47,676,000	

+ or — columns are % change from previous week.

Gasoline Shipments and Draft on Stocks at New Height

Staff Special—By Telegraph

TULSA, July 7.

TWO new records were established in the week ended July 3 by the Mid-Continent refiners that report their operating statistics to NATIONAL PETROLEUM NEWS.

Gasoline shipments set a new peak at 62,900,000 gallons, a volume 3,700,000 gallons larger than in any week since operating statistics have been reported in this manner.

The draft on gasoline stocks was 15,200,000 gallons, the largest decline in gasoline stocks in a week ever reported by these plants.

Crude oil runs averaged 16,000 barrels less daily than in the preceding week. Gasoline output was 2,500,000 gallons less than the week before.

All districts of the Mid-Continent drew on gasoline stocks. The West Texas district shipped more than twice its output for the week.

Stocks of kerosine, distillate, gas oil and fuel oil increased.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended July 3. Change in stocks figures from June 5.

GASOLINE

	Gallons
Production	195,948,000
Shipments	221,921,000
Net change in stocks	—25,973,000
Ratio sales to production	113.3%

KEROSINE

	Gallons
Production	22,794,000
Shipments	19,010,000
Net change in stocks	+3,784,000
Ratio sales to production	83.4%

STOVE DISTILLATE

	Gallons
Production	5,850,000
Shipments	3,405,000
Net change in stocks	+2,445,000
Ratio sales to production	58.2%

GAS OIL

	Gallons
Production	21,241,000
Shipments	13,213,000
Net change in stocks	+8,028,000
Ratio sales to production	62.2%

FUEL OIL

	Gallons
Production	111,974,000
Shipments	92,887,000
Net change in stocks	+19,087,000
Ratio sales to production	83.0%

Issue Rules Under New Oklahoma Tax Law

TULSA, July 3.—Booklets containing the new gasoline tax enforcement law and the rules and regulations pertaining to its administration were mailed this week to oil marketing companies in Oklahoma by the Oklahoma Tax Commission.

The new law goes into effect July 11, and these rules represent the commission's first order which was adopted June 16.

Secretary J. R. Atchison, Oklahoma Petroleum Marketers Association, in a bulletin accompanying the booklet, states that the first forms which will be required will be those for "bond and license application."

Mr. Atchison warns oil marketers that they must have a new license and bond not later than July 25. The necessary forms will be placed in the hands of oil marketers as quickly as they are received from the printers.

Since the law becomes effective July 11, oil marketers will make their July gasoline tax report, covering gasoline received in June, on the form used under the former system.

The tax commisson has ruled that a licensed distributor of gasoline or motor fuel must post the original license at his principal place of business, and must post a copy at each other place of business.

"The object of this regulation," the rule states, "is to require the posting of a license, or copy, at every pump or dispensing station in Oklahoma, as notice to the public and purchasers of gasoline or motor fuel, that the excise tax on such products are being assumed and paid as provided by law."

Each tank truck or tank wagon used in the transportation of gasoline or motor fuel must have painted on both the front and rear ends in a conspicuous position, in letters at least 4 inches in height, the distributor's license number preceded by the initials "O. T. C." This will enable enforcement officers to ascertain readily who is responsible for the payment of the tax on the motor fuel being transported. When trailers or semi-trailers are used the numbers must also be placed on the rear end of the last unit.

S. A. E. Meeting Dates Changed

NEW YORK, July 6.—The National Transportation and Maintenance Committee of the Society of Automotive Engineers will meet at the Shoreham Hotel, Washington, Oct. 27, 28 and 29, instead of Nov. 10 to 12 as previously announced, according to Robert S. Burnett, director of transportation and maintenance activity.

This change in dates was made to avoid conflict with the annual meeting of the American Petroleum Institute, in Chicago, Nov. 10 to 12.

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Refinery - Tank Wagon Markets

Mid-Western Gasoline Climbs ¼ Cent; Export Activity Increases

CLEVELAND, July 7

IMPROVEMENT continued the keynote of oil markets at the turn of the half year. In Chicago and the Mid-Continent gasoline was up .25 cent a gallon. In New York domestic buyers joined the continuing demand of foreign purchasers. The week's activities in the Export market were at the highest pitch in several months.

Bright stocks were active in Pennsylvania, with prices higher. On the West coast increased retail prices were reflected in better market conditions in Oregon, western Washington, and northern California.

Warm weather in the second part of June resulted in better deliveries on the spot market as well as against contracts in the middle west. Gasoline demand for automobiles was heavy, and the weather has been favorable for the harvests with their attendant demand for gasoline.

Refiners have purchased gasoline on the open market to fill their needs in the Mid-Continent section, even into East Texas. Reports from Chicago indicate distress gasoline has been well taken off the market. Prices in both sections were up .25 cent last week, with the bottom in Chicago for U. S. Motor grade 2.625 cents.

On the Eastern seaboard gasoline movement was heavy. Some jobbers were inclined to commit themselves over a longer period than has been the rule for some time.

In the Export market four cargoes of light oil were known to have been closed last week. Heavy oils were more active. Two inquiries for heavy oil remained open.

East coast buyers purchased two cargoes of California gasoline last week, and were negotiating for six cargoes from the Gulf.

In Pennsylvania bright stock was the leading commodity. Prices advanced during the week.

Markets on the West coast were generally quiet. Retail prices in southern California were unsettled, but farther up the coast conditions have improved since prices advanced.

Domestic buyers in New York were active in the wax market. Foreign buying was light. Wax prices at New York and New Orleans were steady.

Heavy Consumption Increases Gasoline in Chicago

Staff Special

CHICAGO, July 3

ADVANCES of 0.25-cent in tank car gasoline prices were the outstanding feature of the Chicago market in the week ended July 3. Practically all refiners and tank car marketers advanced prices sometime during the week.

Abnormally hot weather over most of the central states, accompanied by a heavy consumption of gasoline, was the chief reason given for the upward movement in gasoline prices.

Reports from gasoline distributors over the Standard of Indiana territory indicated their business had been exceptionally good, and this, coupled with the approaching two-day holiday over July 4 resulted in an active demand for tank car gasolines.

While the larger portion of this demand was from jobbers buying against contracts, there was a noticeable increase in spot buying.

Also, this additional buying by contracted jobbers contributed to strength in the spot market as a number of refiners who sell mostly on contracts entered the spot market for considerable quantities of gasoline. Several of them reported it was cheaper to buy their additional requirements on the open market at present low prices than to increase their crude runs.

According to reports from sellers in Oklahoma, Texas and the Chicago area, this buying took practically all of the "distress" gasoline off the market and enabled refiners to ask and receive higher prices.

Another contributing factor in the advance was that apparently many jobbers and tank car marketers who had been buying mostly on a hand-to-mouth basis were not "long" any large amounts of gasoline and were compelled to buy at the higher prices. Several jobbers said they had purchased enough gasoline to carry them for about the first ten days in July.

The bulk of sales of U. S. Motor gasoline reported July 3 was at 2.625 to 2.75 cents, compared to a range of 2.375 to 2.625 cents on June 29. The higher gravities were advanced in about the same proportion. Most of the sales reported were for prompt shipment, as many sellers refused to sell for deferred delivery.

The increased strength in the gasoline market was not extended to kerosine. Most sellers made no changes in price. Sales of 41-43 w.w. were reported at 2 to 2.25 cents. Demand was reported somewhat better by some sellers but most of the trade said business was light on this commodity.

The demand for distillates, gas and fuel oils remained slack. Prices of several grades were lower over the week, but most of these products were practically unchanged.

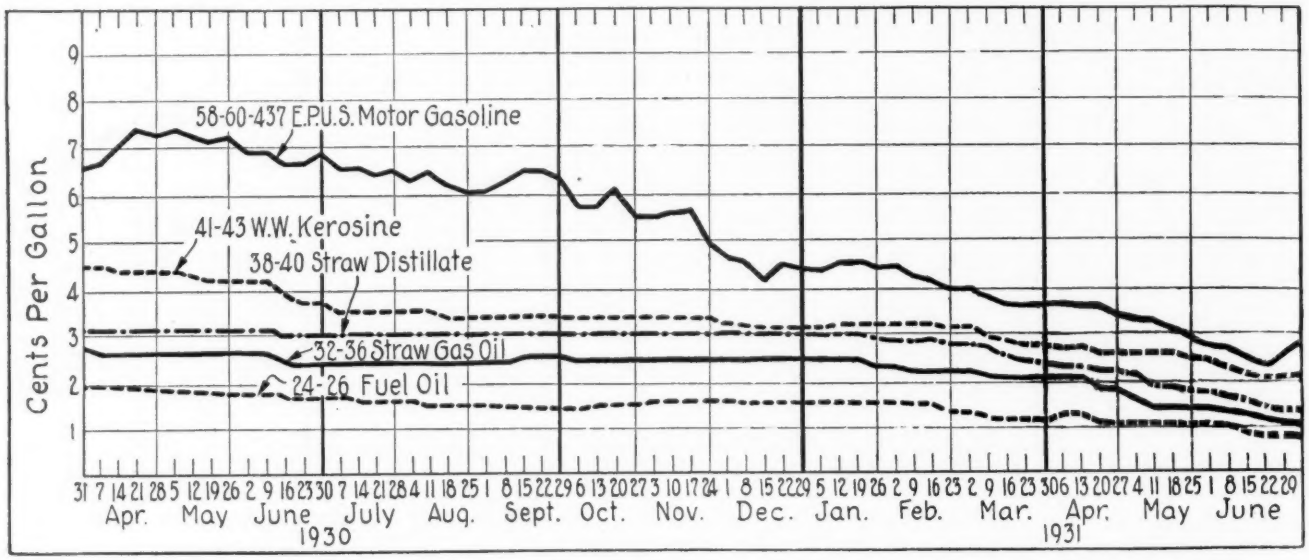
Summary of Group 3 Quotations for U. S. Motor Gasoline, 437 E.P.

In Effect July 6

Oklahoma	2.625-2.875
Kansas	2.625-3.00
North Texas	2.625-2.75
East Texas	2.625-2.75
West Texas	2.625-2.75
Louisiana-Arkansas	2.625-2.75
Indiana-Illinois	2.625-2.75

Prices are those quoted on the basis of f.o.b. Group 3 by refiners in the districts designated.

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P.U.S. Motor Gasoline
41-43 W.W. Kerosine
38-40 Straw Distillate
32-36 Straw Gas Oil
24-26 Fuel Oil
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1930
1931

Prices shown are in Group 3 basis and extended to date shown in Refinery Market Table Section of this issue

Penn Refiners Retain Newton D. Baker

CLEVELAND, July 3.—Further evidence in support of an application for the issuance of a complaint against certain large marketers of petroleum products by manufacturers of Pennsylvania grade motor oils, has been filed with the Federal Trade Commission by Newton D. Baker of Cleveland.

Mr. Baker was secretary of war in the Woodrow Wilson administration.

He also has filed a brief with the commission, he said June 29. Mr. Baker was recently retained by the refiners whose application for the issuance of a complaint was filed with the commission some months ago.

The complaint is against the lease and agency method of controlling outlets for petroleum products. The refiners allege they have lost thousands of outlets since the lease and agency came into extensive use.

Burrell Returns from Russia

PITTSBURGH, July 6.—Col. G. A. Burrell has returned from Russia to this country, after installing compression plants, absorption plants and pressure distillate stabilizers in the oil fields of Russia for his company, the Burrell-Mase Engineering Co.

Cleveland Tables Early Closing Suggestion

CLEVELAND, July 3.—A proposal that members of the Western Reserve Petroleum Club, made up of service station operators in Cleveland and nearby territory, should act on a suggestion that service stations be closed at 7 p.m. or some other early hour, was tabled at the club's meeting here.

A committee studied the question of early closing and decided that it would be impossible to get dealers to join in the movement; that the plan was not feasible because of so many all night stations; that it would be difficult to change the buying habits of customers who are accustomed to buy at night; that bus and truck business demands a night source of motor fuel supply, and that a closing hour cannot be arbitrarily set for all stations in a large community.

Shipments From Southern California

LOS ANGELES, July 2.—Shipments of bulk petroleum from southern California ports to Foreign and Atlantic seaboard ports totaled 607,350 barrels for week ended June 27. This figure compares with a total of 1,512,096 barrels shipped a week ago. Destination and quantity of shipments were as follows:

Destination	Crude	Gasoline	Diesel	Kerosine	Fuel	Total
Pacific For.	57,810	96,614	113,795	.....	242,089	510,308
Atlantic Dom.	.....	97,042	.....	.....	.....	97,042

Prices 10 Years Ago
July 6, 1921

	Oklahoma	Penna.
58-60 U. S. Motor	11.25-11.50	15.50-16.50
80-84 Natural	8.50-9.00	.....
Kerosine (41-43 Okla.; 47 w. w. Pa.)	2.00-2.25	5.50-6.00
Fuel Oil (24-26 Okla.; 36-40 Pa.)	$0.35-$0.40	3.25-3.50
Crude	$1.00	$2.25
Chicago tank wagon (no state tax)		18.00c

Prices A Year Ago
July 7, 1930

	Oklahoma	Penna.
58-60 U. S. Motor	6.4583	8.00-8.25
Grade A Natural	4.75	.....
Kerosine (Okla. 41-43; Pa. 47 w. w.)	3.375-3.625	5.25-5.50
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.65-$0.75	3.125-3.50
Crude (Okla. 35-35.9)	$1.255	$2.25
Chicago tank wagon (including 3c tax)		18.00c

Mid-Continent Refinery Markets

Gasoline Shipments Exceptionally Heavy

Staff Special
TULSA, July 3

GASOLINE prices advanced approximately 0.25 cent a gallon in the Mid-Continent the week preceding the July 4 week end. Shipments were exceptionally heavy, both to contract accounts and to spot buyers.

Several refiners by July 3 were behind with shipments, not only in Oklahoma and Kansas, but in the other Mid-Continent districts. At least three Kansas refiners were forced to buy in the open market to supply their demand, and reports from that district indicated stocks had been reduced materially in the past two weeks.

Much of the demand in Kansas was attributed to the harvest. The weather has been a favorable factor in the harvest this season, and the grain has ripened rapidly.

Jobbers, almost without exception, asked for rush shipment, realizing that the harvest demand coupled with the probable demand for the holiday would endanger them unless they had some gasoline in reserve. Few jobbers the past several months have kept any appreciable amount of motor fuel in their storage tanks.

Several refiners, in the Mid-Continent and other adjacent districts, bought sizeable quantities of gasoline. This gasoline in some instances was used to supply the purchasing company's requirements for blue gasoline, but the buying nevertheless had a decidedly favorable effect on the gasoline market.

Some of this buying was spread to the new East Texas refining district, with the result those refiners late in the week were virtually sold up for the next week or 10 days.

A representative of an export buyer reported July 3 that he would move a cargo of high gravity gasoline from the Gulf late this month. Some of the gasoline was reported to have been purchased, but the remainder necessary to complete the cargo was not stated.

A report from the east stated an East Texas refiner this week sold a cargo of U. S. Motor for eastern coast movement at 3.125 cents a gallon, f.o.b. Gulf terminal. That price would net the refiner slightly less than 2.25 cents a gallon.

Natural gasoline manufacturers in Oklahoma continued to experience an active demand for their product from refiners in Oklahoma and adjacent refining centers. Material was comparatively scarce, and a few refiners were forced to reduce motor fuel shipments slightly because of inability to get natural gasoline rapidly enough.

A few manufacturers July 3 quoted 1.875 cents for grade AA, but the bulk of sales continued to be made at 1.75 cents.

Manufacturers in Texas were not so favorably situated but the material was scarcer than it had been the past two or three weeks and prices showed signs of stiffening late in the week.

One company which has been active in the natural gasoline export business reported a cargo would be lifted late this week from its Gulf terminal for coastwise movement. Most of the cargo was filled from the company's storage although one report indicated the company had done some buying to fill out the order. The cargo was composed of 16-pound vapor pressure material.

Refiners continued to use the new natural gasoline specifications more and more as they learned from experience the advantages in buying on those specifications. The result has been a smaller production of the lower grades of natural gasoline and there continued to be a definite trend toward a lower vapor pressure material.

Kerosine demand showed some improvement in Kansas and Oklahoma. This was attributed in part to the harvest which is spreading through the grain belt. Some jobbers already had stocked their requirements of kerosine but others, remembering the experiences of the past year or so preferred to buy as the demand developed rather than to anticipate it.

Distillates were virtually out of the picture, and gas oils were in light demand. Prices were generally unchangd.

Fuel oil demand was light most refiners reported. East Texas refiners were finding their fuel oil disposal problem more complicated as stocks continued to increase. One small refiner has been storing his fuel oil in an open pit, and recently was forced to construct another pit for his heavy oil.

Bright stock prices continued to show downward tendencies. Quotations for high cold test stock ranged from 11.50 cents up, while a majority of refiners making the low cold test oil quoted 12 cents and up.

Neutral oils demand was fair most refiners reported with prices generally unchanged from last week.

Wax prices were unchanged. Demand was light.

A wider spread in quotations for petroleum coke was reported in Oklahoma late in the week. Prices for still run now range from $2 to $3 per ton. Demand was comparatively light.

Gilmore Gasoline Plants Sold

TULSA, July 3.—The Forrest E. Gilmore Co., a natural gasoline manufacturing concern which was placed in receivership several weeks ago, was sold at receiver's sale July 1 to W. S. Babson, Portland, Ore., representative of the bondholders. The sale included plants Nos. 7, 10 and 13 in the Seminole field of Oklahoma. The bids totalling $15,000.

Slack Starts New Refinery

TULSA, July 3.—The new 2,000 barrel refinery at Willow Springs, in the East Texas field, built by the Slack Refining Co. was given its first tests this week. The plant is located on the Texas & Pacific railroad.

Makers Insist on Own Oils for Absorbers

CLEVELAND, July 6.—Special oils or fluids are required for hydraulic shock absorbers, and specifications for these oils or fluids are closely guarded by the shock absorber manufacturers, inquiries to them reveal.

Oils must retain their fluidity many degrees below zero. They must not clog the valves and must stand up under high pressures. They must not contain free carbon or other free solid matter.

Other than that manufacturers do not reveal what they require in an oil.

Delco Products Corp., Dayton, O., manufacturer of the widely used Delco-Lovejoy absorbers, puts out its own oil in half and one-gallon cans. Superservice station operators who plan shock absorber service may buy this oil from branches of the United Motor Service, the service division of General Motors accessories' manufacturers, the company states.

Houde Engineering Corp., manufacturer of the Houdaille absorber used on Fords and several other cars, puts out a special fluid, said to have a glycerine base, in pint, quart, gallon and five-gallon cans for its product. This fluid may be obtained from automotive jobbers.

E. L. Valance, general service manager of this company, in a letter to NATIONAL PETROLEUM NEWS, has stressed the importance of using fluids of correct specifications. Unless the right fluid is used, he said, ideal performance cannot be expected.

According to the Monroe Auto Equipment Co., Monroe, Mich., maker of the absorbers used by Willys and Durant, oils substituted for its special oil may cause unnecessary repairs. This company sells its special oil through authorized stations or direct from the factory.

Chicago Tank Car Market

CHICAGO, July 3

FURTHER advances in tank car gasoline prices were made this week in the Chicago market. Demand was considerably improved, both from spot and contract buyers and several refiners also made purchases in the open market.

Most traders made advances of 0.25 cent in gasoline prices, and sales of U. S. Motor were reported generally at 2.625 to 2.75 cents on July 3 compared to 2.375 to 2.625 cents on June 29.

Kerosines apparently were unaffected by the advances in gasoline prices. Distillates, gas and fuel oils were in slack demand.

Following prices represent majority of sales to jobbers made July 6 on Group 3 freight basis, although shipments may originate in other refining districts, such as North, West and East Texas, Louisiana, Arkansas, Illinois, Kentucky, etc.

	Prices July 6	Prices June 29	Prices June 22
50-52, 437 e.p. naphtha	2.50 – 2.75	2.25 – 2.625	2.25 – 2.625
58-60 U. S. Motor, 437 e.p.	2.625– 2.75	2.375– 2.625	2.25 – 2.625
†56-62 400-437 e.p. anti-knock gasoline	2.875– 3.50	2.625– 3.50	2.75 – 3.50
60-62 437 e.p. gasoline	2.625– 2.875	2.375– 2.625	2.25 – 2.625
60-62 400 e.p. gasoline	2.75 – 3.00	2.50 – 2.75	2.375– 2.75
64-66 375 e.p. gasoline	3.125– 3.375	2.875– 3.125	2.875– 3.125
68-70 350-360 e.p. gasoline	3.25 – 3.50	3.125– 3.375	3.125– 3.375
*Domestic Aviation Gasoline	4.75 – 5.00	4.75 – 5.00	4.75 – 5.25
41-43 w.w. kerosine	2.00 – 2.25	2.00 – 2.25	2.00 – 2.25
42-44 w.w. kerosine	2.125– 2.375	2.125– 2.375	2.125– 2.375
38-40 p. w. distillate	1.375– 1.625	1.375– 1.625	1.375– 1.625
38-40 straw distillate	1.25 – 1.375	1.25 – 1.50	1.25 – 1.50
32-36 ordinary dark gas oil	0.625– 0.875	0.625– 0.875	0.625– 0.875
32-36 dark zero gas oil	1.125– 1.25	1.125– 1.25	1.125– 1.25
32-36 straw zero gas oil	1.125– 1.375	1.125– 1.375	1.125– 1.375
28-30 zero fuel oil (per bbl.)	$0.425–$0.475	$0.45 –$0.50	$0.475–$0.525
28-30 fuel oil (per bbl.)	$0.40 –$0.45	$0.45 –$0.475	$0.475–$0.525
24-26 fuel oil (per bbl.)	$0.275–$0.325	$0.325–$0.35	$0.35 –$0.375
18-22 fuel oil, low sulfur (per bbl.)	$0.20 –$0.25	$0.225–$0.275	$0.25 –$0.30
18-22 fuel oil, high sulfur zero (per bbl.)	$0.225–$0.25	$0.25 –$0.30	$0.275–$0.30
14-16 fuel oil (per bbl.)	$0.20 –$0.225	$0.20 –$0.25	$0.25 –$0.275

*Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

†Over 45% benzol equivalent. Prices represent quotations and sales.

Ohio Issues Regulation On Grease Dispensers

CLEVELAND, July 3.—Grease or heavy oil dispensers in use or in stock of Ohio marketers may be used as they are until Jan. 1, 1932, the Ohio sealer has informed a committee of Ohio marketers, but to each dispenser by that date must be attached a tag saying, in substance; "Half Pint Per Stroke," or "Per Cycle," or any multiple or submultiple of the half pint, as pint or quarter pint.

Dispensers bought after July 1, 1931, by Ohio marketers must be equipped with measure registering devices. Such registering devices must show from one to at least five pints but need not register more than five pints.

At present the Ohio sealer, it is said, is not considering any definite date on which a locking device will be required so the dispenser cannot be operated unless it contains a supply of grease or oil. Several such locking devices are on the market but until the supply of positive acting locking devices is sufficient to meet fully the requirements in the field, no date will be set for requiring such a device, it was said.

It was suggested at a recent meeting of Cleveland marketers that in buying new dispensing equipment, marketers should consider dispensers with locks in anticipation of a future state requirement for them.

Surtees Transferred to St. Louis

TULSA, July 3.—L. V. Surtees, manager of the northern division of the marketing department of the Mid-Continent Petroleum Corp., Waterloo, Iowa has been transferred to St. Louis. He will become manager of the eastern division. Mr. Surtees succeeds R. E. King, who resigned recently.

H. C. Wurster, assistant manager of the northern division under Mr. Surtees, was promoted to managership.

S. B. Caldwell, assistant manager of the eastern division, will remain in that capacity.

Oil Men Attack Wichita City License Tax

TULSA, July 3.—Oil companies operating in Wichita have filed a suit in district court attacking the legality of the license tax ordinance. The suit was filed in the name of McKay Oil Co. by the Wichita Oil Men's Club.

The city ordinance requires a license fee of $100 a year for each service station. The fee is payable semi-annually, in February and in August.

A similar suit, filed against another Kansas municipality several months ago was won by the oil companies. It is the contention of the oil companies that the new state gasoline tax law automatically prevents the city from collecting any further taxes. The Wichita oil companies hope to eliminate or materially reduce the present tax.

The city has been enjoined from collecting the second semi-annual payment. This move probably will result in a prompt hearing of the suit.

Kentucky Jobbers Meet Sept. 9.

LOUISVILLE, July 6.—The date of the fall meeting of the Kentucky Petroleum Marketers Association has been changed from Sept. 16 to Sept. 9, to prevent conflict with the Kentucky state fair, according to the July 1 Kentucky Petroleum Marketer.

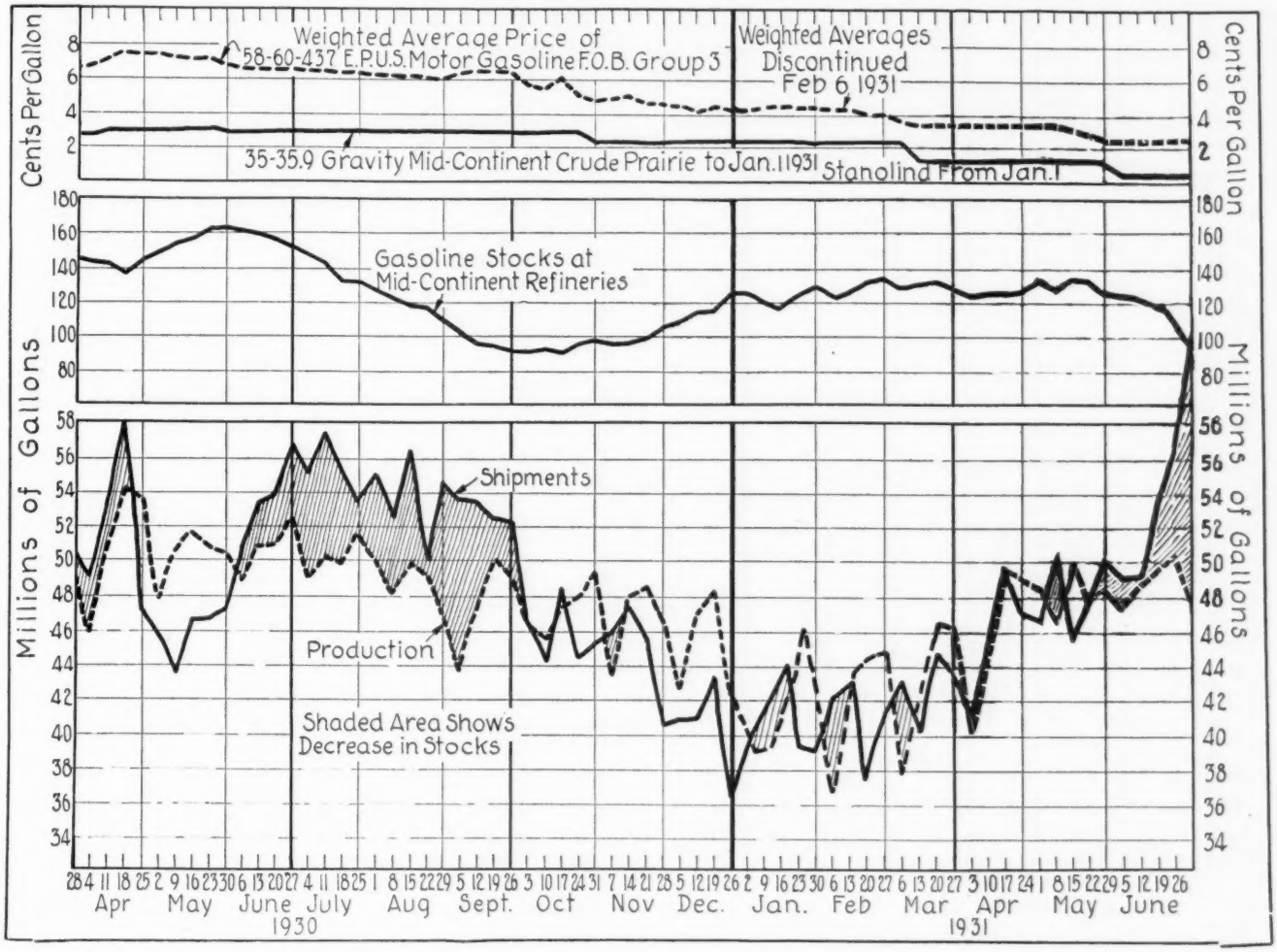
The meeting will be held in Louisville, place and other details to be announced later.

Opens New Station

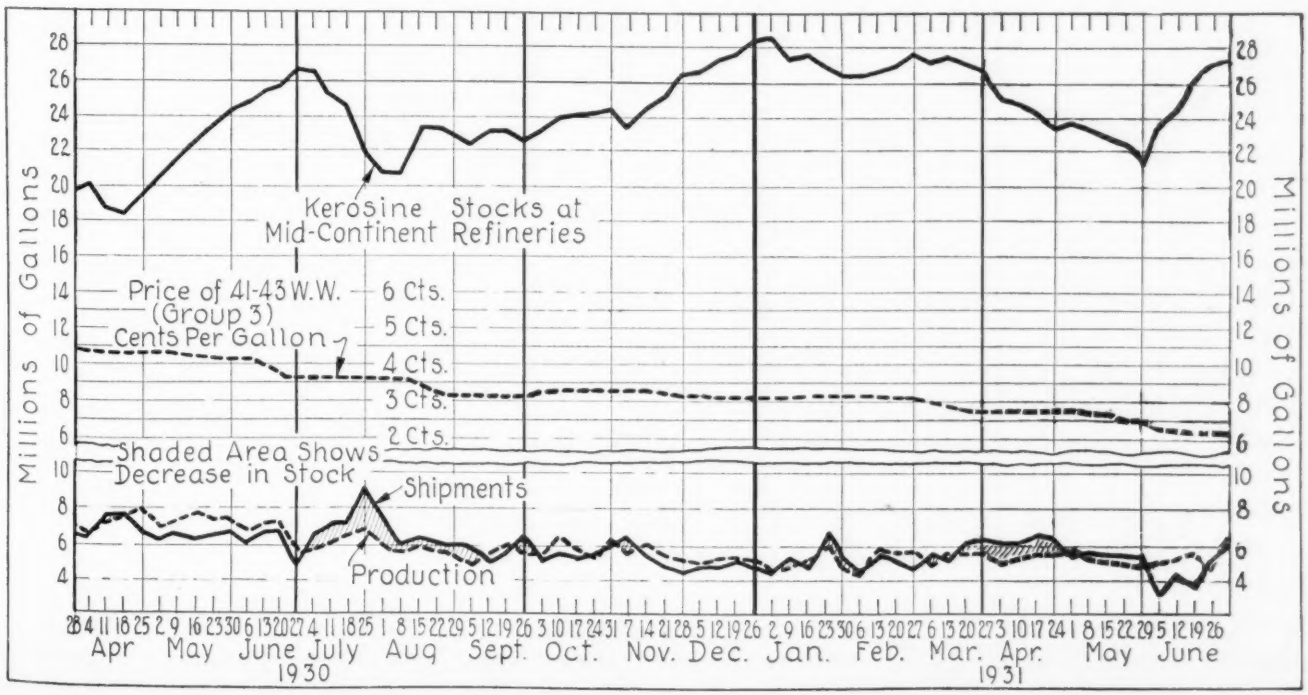
TULSA, July 3.—Marathon Oil Co. July 3 opened a new service station at the corner of Boston avenue and Brady street, Tulsa. The location is near the approach to the new viaduct over the railroad tracks, and which leads to the Boston avenue entrance to the recently completed Union station.

Barometer of Mid-Continent Refinery Market—Week Ending July 3

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Weighted Average Price of 58-60-437 E.P.U.S. Motor Gasoline F.O.B. Group 3
Weighted Averages Discontinued Feb 6 1931
35-35.9 Gravity Mid-Continent Crude Prairie to Jan. 1 1931
Stanolind From Jan. 1
Millions of Gallons
Gasoline Stocks at Mid-Continent Refineries
Shipments
Production
Shaded Area Shows Decrease in Stocks
Apr May June July Aug Sept. Oct Nov Dec. Jan. Feb Mar Apr May June
1930
1931

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 74



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices July 6	Prices June 29	Prices June 22
48-50 450 e.p. naphtha...	2.375– 2.625	2.25 – 2.375	2.25 – 2.375
50-52 450 e.p. naphtha...	2.375– 2.625	2.25 – 2.375	2.25 – 2.375
56-58 450 e.p. gasoline...	2.375– 2.50	2.25 – 2.375	2.25
58-60 450 e.p. gasoline...	2.375– 2.50	2.25 – 2.375	2.25
58-60 U.S. Motor 437 e.p.	2.75 – 2.875	2.50 – 2.875	2.25 – 2.625
60-62 437 e.p. gasoline...	2.75 – 2.875	2.50 – 2.875	2.25 – 2.625
60-62 400 e.p. gasoline...	2.75 – 3.00	2.625– 3.00	2.375– 2.75
64-66 390 e.p. gasoline...	2.875– 3.125	2.875– 3.125	2.75 – 3.125
64-66 375 e.p. gasoline...	3.125– 3.375	3.00 – 3.375	3.125– 3.25
68-70 350-360 e.p. gasoline	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
‡Domestic Aviation Gasoline.....	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00

‡Prices based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% rec. at 221°; 90% at 311°; 96% at 347°; end point, 374°F. Fighting grade in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

52-54 Naphtha.....	4.00 – 4.25	4.25 – 4.50	4.25 – 4.50
54-56 Naphtha.....	4.00 – 4.25	4.25 – 4.50	4.25 – 4.50
58-60 U.S. Motor 437 e.p.	4.25 – 4.625	4.375– 4.75	4.50 – 4.75
60-62 400-410 e.p. gasoline	4.375– 4.75	4.50 – 4.875	4.625– 5.00
64-66 390 e.p. gasoline...	4.75 – 5.25	4.75 – 5.25	5.00 – 5.25
68-70 350-360 e.p.....	5.25 – 5.75	5.50 – 5.75	5.75 – 6.00

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline			
Ohio, delivery at any point.....	7.00	7.00	7.00

KANSAS (F. o. b. refinery Kansas destination)

58-60 U.S. Motor 437 e.p.	3.00 – 3.125	2.875– 3.125	2.75 – 3.12
60-62 437 e.p. gasoline...	3.125– 3.25	3.00 – 3.25	2.875– 3.12
60-62 400 e.p. gasoline...	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
64-66 375 e.p. gasoline...	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75

NORTH TEXAS (F. o. b. North Texas refineries)

56-58 450 e.p. gasoline...	2.375– 2.50	2.25 – 2.375	2.25
58-60 450 e.p. gasoline...	2.375– 2.50	2.25 – 2.375	2.25
58-60 U.S. Motor 437 e.p.	2.625– 2.75	2.50 – 2.75	2.25 – 2.50
60-62 400 e.p. gasoline...	2.75 – 3.00	2.625– 2.875	2.50 – 2.75
64-66 390 e.p. gasoline...	2.875– 3.125	2.75 – 3.125	2.75 – 3.00
64-66 375 e.p. gasoline...	3.125– 3.25	3.00 – 3.25	3.00 – 3.25
68-70 350-360 e.p. gasoline	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment)

50-52 naphtha.....	2.25 – 2.375	2.125– 2.25	2.00 – 2.125
58-60 437 e.p. gasoline...	2.50 – 2.625	2.375– 2.50	2.125– 2.25
58-60 U.S. Motor 437 e.p.	2.625– 2.75	2.50 – 2.75	2.25 – 2.50

EAST TEXAS (F.o.b. East Texas Refineries)

58-60 U. S. Motor, 437 e.p.	2.50 – 2.75	2.50	.....
60-62 437 e.p. gasoline...	2.625– 2.875	2.50	.....

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

58-60 U.S. Motor 437 e.p.	3.25	2.75	2.75

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	3.25	2.75	2.75

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	6.50 – 9.50	7.25 – 9.50	3.00 – 3.50
54-58 U.S. Motor, for outside state shipment....	5.25 – 6.25	6.75 – 7.50	3.25 – 3.50
58-61 375-400 e.p. gasoline	10.50 –11.50	10.50 –11.50	3.75 – 4.50
42-45 Engine Distillate 445-480 e.p.....	7.00 – 8.50	7.00 – 8.50	3.00 – 3.50

NATURAL GASOLINE

(Note: End point of all grades, not over 375F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA (F. o. b. Oklahoma refineries)

Grade AA, 80-87.9, 90% Recovery.....	1.875	1.75	1.625
Grade A, 72-79.9, 90% Recovery.....	1.875- 2.00	1.875	1.875
Grade BB, 84-92, 85% Recovery.....	1.75	1.625	1.50
Grade B, 76-83.9, 85% Recovery.....	1.75	1.625	1.50
Grade C, 80-92, 78% Recovery.....	1.75	1.625	1.50

†Prices nominal ††Only one refiner quoting *Quotations only
**Prices represent quotations and sales

NORTH TEXAS (F. o. b. Breckenridge)

	Prices July 6	Prices June 29	Prices June 22
Grade AA, 80-87.9, 90% Recovery.....	1.50 – 1.625	1.50 – 1.625	1.50 – 1.625
Grade A, 72-79.9, 90% Recovery.....	1.875	1.875	1.875
Grade BB, 84-92, 85% Recovery.....	1.50	1.50	1.375– 1.50
Grade B, 76-83.9, 85% Recovery.....	1.50	1.50	1.375– 1.50
Grade C, 80-92, 78% Recovery.....	1.50	1.50	1.375– 1.50

NORTH LOUISIANA (F. o. b. Monroe District)

Grade AA.....	†1.75 –2.00	†1.875	†1.875
Grade BB.....	†1.75	†1.75	†1.75
Grade C.....	†1.75	†1.75	†1.75

CALIFORNIA (F. o. b. California refineries)

75-85, 375-390 e.p. for blending.....	5.50 – 6.00	5.00 – 6.50	3.50 – 4.00

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

45 w.w. kerosine.....	3.375– 3.75	3.625– 4.00	3.75 – 4.00
46 w.w. kerosine.....	3.625– 3.875	3.875– 4.125	3.875– 4.125
47 w.w. kerosine.....	3.875– 4.125	4.00 – 4.25	4.125– 4.25

OKLAHOMA (F. o. b. Oklahoma refineries)

41-43 w.w. kerosine.....	2.00 – 2.25	2.00 – 2.25	2.00 – 2.25
42-44 w.w. kerosine.....	2.125– 2.375	2.125– 2.375	2.125– 2.375

KANSAS (F. o. b. refinery Kansas destination)

41-43 w.w. kerosine.....	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
42-44 w.w. kerosine.....	2.625– 2.75	2.625– 2.75	2.625– 2.75

NORTH TEXAS (F. o. b. North Texas refineries)

40-42 w.w. kerosine.....	1.75 – 2.00	1.875– 2.125	1.875– 2.125
41-43 w.w. kerosine.....	1.875– 2.125	2.00 – 2.25	2.125– 2.25

EAST TEXAS (F.o.b. East Texas Refineries)

41-43 w.w. kerosine.....	1.875– 2.125	2.00 – 2.25	.....

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosine.....	2.25 – 2.50	2.50	2.50

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 w.w. kerosine.....	2.25 – 2.50	2.50	2.50

CALIFORNIA (F. o. b. California refineries)

38-40 w.w. kerosine.....	4.50 – 5.50	4.50 – 5.50	3.75 – 4.50

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Vis.	(Viscosity at 70° F.)		
200 No. 3 color, 420-425 flash.....	19.50 –20.00	20.00 –20.50	20.25 –21.00
180 No. 3 color, 410-415 flash.....	17.00 –18.00	17.00 –18.00	17.50 –18.00
150 No. 3 color, 400-405 flash.....	14.75 –15.50	14.75 –15.50	15.00 –15.50

****MID-CONTINENT** (F. o. b. Mid-Continent refineries)

Vis. Color	(Viscosity at 100° F.)		
100—No. 2.....	4.75	4.75	4.75
150—No. 3.....	6.25	6.25	6.25
150—No. 4.....	6.00	6.00	6.00
180—No. 3.....	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
180—No. 4.....	7.50 – 7.75	7.50 – 7.75	7.50 – 7.75
180—No. 5.....	7.25	7.25	7.25
200—No. 3.....	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200—No. 4.....	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
200—No. 5.....	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
220—No. 3.....	9.50 – 9.75	9.50 – 9.75	9.50 –10.00
220—No. 4.....	9.00	9.00	9.00
220—No. 5.....	8.50	8.50	8.50
240—No. 3.....	10.25 –10.50	10.25 –10.50	10.25 –10.50
240—No. 4.....	10.00	10.00	10.00
240—No. 5.....	9.50	9.50	9.50
280—No. 3.....	12.00 –12.25	12.00 –12.25	12.00 –12.25
280—No. 4.....	11.00 –11.25	11.00 –11.25	11.00 –11.25
280—No. 5.....	10.50	10.50	10.50

Note: Quotations for 0 to 10 cold test neutral oils are 1 to 2 cents higher depending on the grade.

****Prices represent Quotations and Sales**

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL (F. o. b. Gulf Coastal refineries)

Vis. Color	Prices July 6 (Viscosity at 100° F., pour test 0)	Prices June 29	Prices June 22
100—No. 2 Pale	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
200—No. 3 Pale	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
300—No. 3 Pale	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
500—No. 3½ Pale	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
750—No. 4 Pale	10.00 –10.25	10.00 –10.25	10.00 –10.25
1200—No. 4 Pale	12.00 –12.25	12.00 –12.25	12 00 -12.25
2000—No. 4-5 Pale	13.00 –13.25	13.00 –13.25	13 00 –13.25
200—No. 5½ Red Oil	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
300—No. 5½ Red Oil	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
500—No. 6 Red Oil	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
750—No. 6 Red Oil	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
1200—No. 5-6 Red Oil	11.00 –11.25	11.00 –11.25	11.00 –11.25
2000—No. 6 Plus Red Oil	13.00 –13.25	13.00 –13.25	13.00 –13.25

‡CALIFORNIA (F. o. b. California refineries)

Vis. Color	(Viscosity at 100° F.)		
100—No. 3	7.00	7.00	7.00
200—No. 3	10.00	10.00	10.00
300—No. 3	10.50	10.50	10.50
450—No. 3	12.50	12.50	12.50
550—No. 3	13.50	13.50	13.50
600—No. 3	13.50	13.50	13.50
200—No. 5	10.00	10.00	10.00
300—No. 5	10.50	10.50	10.50
400—No. 5	12.00	12.00	12.00
500—No. 5	13.00	13.00	13.00
600—No. 5	13.50	13.50	13.50
700—No. 7	15.50	15.50	15.50

‡Above prices in effect since April 1.

CYLINDER STOCKS

MID-CONTINENT (F. o. b. Mid-Continent refineries)

(Cylinder stock prices represent quotations and sales to domestic jobbers only).

190-200 Vis. D at 210° Brt. St.	17.00	17.00	17.00
150-160 Vis. D at 210° Brt. St., 0-10 cold test	12.00 –13.00	12.00 –13.00	12.50 –14.00
150-160 Vis. D at 210° Brt. St., 10-25 cold test	12.00 –13.00	12.00 –13.00	12.50 –13.50
150-160 Vis. D Brt. Stock, 25-40 cold test	11.50 –12.50	11.75 –12.75	12.50 –13.00
150-160 Vis. E 210° Brt. St.	11.50 –12.50	11.50 –12.50	12.00 –13.00
600 St. Ref. Olive Green	4.25 – 5.00	4.25 – 5.00	4.25 – 5.00
600 St. Ref. Dark Green	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50
Black Oil	4.00 – 4.625	4.00 – 4.75	4.00 – 4.75

PENNSYLVANIA (F. o. b. Western Penna. refineries) (A.S.T.M. Tests)

600†Steam Refined, filterable	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
650 Steam Refined	10.25 –11.00	10.25 –11.00	10.25 –11.00
600 Flash	11.00 –11.50	11.00 –11.50	11.00 –11.50
630 Flash	17.00 –17.50	17.00 –17.50	17.00 –17.50
600 Warren E	11.25 –11.50	11.25 –11.50	11.25 –11.50
Cold Test Stocks, 140-150 vis. at 210°, 540-550 flash, No. 8 color, 20 pour test and below	16.50	16.00 –16.50	16.00 –16.50
No. 8 color, 25 and 35 pour test	16.25 –17.00	16.00 –16.25	16.00 –16.25
No. 8 color, 40 pour test and above	16.00 –16.50	15.75 –16.00	15.75 –16.00

WAX

PENNSYLVANIA (Per pound, F. o. b. New York)

122-124 white crude scale a.m.p.	2.00	2.00	1.95 – 2.00
124-126 white crude scale, a.m.p.	2.00	2.00	1.95 – 2.00

****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)

124-126 White Crude Scale, a.m.p.	1.75 – 2.00	1.75 – 2.00	1.75 – 2.00

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	2.375– 2.625	2.375– 2.625	2.375– 2.625
30-34 fuel oil	2.375– 2.625	2.375– 2.625	2.375– 2.625
28-32 fuel oil	2.375– 2.625	2.375– 2.625	2.375– 2.625

†Prices nominal ††Only one refiner quoting *Quotations only

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices July 6	Prices June 29	Prices June 22
38-40 straw distillate	1.25 – 1.50	1.25 – 1.50	1.25 – 1.50
36-38 straw distillate	1.125– 1.375	1.125– 1.375	1.125– 1.375
32-36 straw gas oil	0.875– 1.125	1.00 – 1.25	1.00 – 1.25
32-36 straw gas oil zero	1.25 – 1.50	1.25 – 1.50	1.25 – 1.50
32-36 dark gas oil	0.75 – 1.125	0.75 – 1.125	0.75 – 1.125
32-36 dark gas oil zero	1.125– 1.375	1.125– 1.375	1.125– 1.375
28-30 zero fuel oil(per bbl.)	$0.45 –$0.50	$0.475–$0.525	$0.50 –$0.55
28-30 fuel oil (per bbl.)	$0.45 –$0.50	$0.45 –$0.50	$0.475–$0.525
26-28 fuel oil (per bbl.)	$0.40 –$0.45	$0.40 –$0.45	$0.425–$0.475
24-26 fuel oil (per bbl.)	$0.35 –$0.40	$0.35 –$0.40	$0.35 –$0.40
22-26 fuel oil (per bbl.)	$0.325–$0.375	$0.325–$0.375	$0.325–$0.375
18-22 fuel oil (per bbl.)	$0.25 –$0.325	$0.25 –$0.325	$0.275–$0.325
16-20 fuel oil (per bbl.)	$0.25 –$0.30	$0.25 –$0.30	$0.275–$0.30
14-16 fuel oil (per bbl.)	$0.225–$0.275	$0.225–$0.275	$0.25 –$0.30

KANSAS (F. o. b. refinery Kansas destination)

38-40 straw distillate	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
36-38 straw distillate	1.75 – 2.00	1.75 – 2.00	1.75 – 2.00
32-36 straw gas oil	1.625– 1.75	1.625– 1.75	1.625– 1.75
18-22 fuel oil (per bbl.)	$0.40 –$0.50	$0.40 –$0.50	$0.40 –$0.50
10-14 fuel oil (per bbl.)	$0.30 –$0.35	$0.30 –$0.35	$0.30 –$0.35

NORTH TEXAS (F. o. b. North Texas refineries)

38-40 straw distillate	1.25 – 1.50	1.25 – 1.50	1.25 – 1.50
38-40 p.w.treated distillate	1.375– 1.625	1.375– 1.625	1.375– 1.625
32-36 gas oil, cracked	1.00 – 1.125	1.00 – 1.125	1.00 – 1.125
32-36 St. reduced gas oil	0.75 – 1.125	0.875– 1.125	0.875– 1.125
24-26 fuel oil (per bbl.)	$0.30 –$0.35	$0.30 –$0.35	$0.30 –$0.35
20-24 fuel oil (per bbl.)	$0.25 –$0.30	$0.25 –$0.30	$0.25 –$0.30
18-22 fuel oil (per bbl.)	$0.225–$0.275	$0.225–$0.275	$0.225–$0.275

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment.

30-32 gas oil	0.75 – 1.125	0.875– 1.125	0.875– 1.125
28-30 zero gas oil	1.00 – 1.25	1.125– 1.25	1.125– 1.375
18-22 fuel oil (per bbl.)	$0.25 –$0.30	$0.25 –$0.30	$0.275–$0.30

EAST TEXAS (F.o.b. East Texas Refineries)

30-34 gas oil	$0.50	0.50	.....
18-22 fuel oil	$0.25	$0.25	.....

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	1.75 – 2.00	1.75 – 2.00	1.75 – 2.00
32-36 gas oil, straw	1.75 – 2.00	1.75 – 2.00	1.75 – 2.00
14-16 fuel oil (per bbl.)	$0.50 –$0.55	$0.50 –$0.55	$0.50 –$0.55

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil, straw	1.75 – 2.00	1.75 – 2.00	1.75 – 2.00
32-36 dark gas oil	1.75 – 2.00	1.75 – 2.00	1.75 – 2.00
28-30 gas oil	1.75 – 2.00	1.75 – 2.00	1.875– 2.125
20-24 fuel oil (per bbl.)	$0.675–$0.725	$0.675–$0.725	$0.70 –$0.75
9-12 fuel oil (per bbl.)	$0.50 –$0.55	$0.50 –$0.55	$0.525–$0.575
Black oil	3.00	3.00	3.00

CALIFORNIA (F. o. b. San Joaquin Valley. Nominal pipe line charge to San Francisco 24c per bbl. more and to San Pedro 20c per bbl. more.)

14-18 fuel oil (per bbl.)	$0.40 –$0.50	$0.40 –$0.50	$0.40 –$0.50
14-18 Bunker oil (per bbl.)	$0.50 –$0.80	$0.50 –$0.80	$0.50 –$0.80
30-34 gas oil (per bbl.)	$0.75 –$0.90	$0.70 –$0.85	$0.70 –$0.85
27 Plus Diesel oil (per bbl.)	$0.75 –$0.90	$0.70 –$0.85	$0.70 –$0.85

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. Penna. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00
Lily White	5.125– 6.00	5.125– 6.00	5.125– 6.00
Cream White	4.125– 5.00	4.125– 5.00	4.125– 5.00
Light Amber	2.625– 2.875	2.625– 2.875	2.625– 2.875
Amber	2.375– 2.625	2.375– 2.625	2.375– 2.625
Red	1.875– 2.375	1.875– 2.375	1.875– 2.375

PETROLEUM COKE

****OKLAHOMA** (F. o. b. Oklahoma refineries)

(Per ton in car lots)

Lump	$3.00 –$4.00	$4.00	$3.00
Still run	$2.00 –$3.00	$2.00	$2.00
Breeze	$0.75 –$1.50	$1.25	$1.25

****Prices represent Quotations and Sales**

NEW STATIONS BUILDING

Note: Material used in this column is taken principally from newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy. Headquarters of companies and addresses of individuals are given wherever possible.

The list as published from week to week cannot be looked upon as indicative of the relative extent to which stations are being built in various parts of the country.

Service Stations

Williston, N. D.—Farmers Union Oil Co.

Carroll, Ia.—McCoy Bros. Motor Co.

St. Paul, Minn.—Carl Engdahl, 1800 Sheridan St.

Minneapolis, Minn. — Gold Seal Oil Co., 528 N. 7th St.

Park River, N. D.—Mutual Oil Co.

Mitchell, S. D.—C. J. Rozum.

New Rockford, N. D.—White Eagle Oil Co., 606 Vandalia Ave., St. Paul, Minn.

St Charles, Ill.—Jens Madsen, 13th Ave. and Main St.

Knoxville, Tenn.—Cherokee Oil Co.

Huntington, Ind. — Shell Petroleum Corp., Shell Bldg., St. Louis, Mo.

Columbia City, Ind. — Frank Perl, Swihart St.

Glencoe, Ill.—Keystone Oil & Mfg. Co., 332 South Michigan Ave., Chicago, Ill.

Appleton, Wis.—Buth Oil Co., Franklin and Oneida Sts.

Minneapolis, Minn. — Minneapolis Concrete Products Co., 4242 4th Ave. S.

Minneapolis, Minn. — Blau Oil Inc., 101 W. Lake St.

Stevens Point, Wis.—Edward Kubisiak, 422 Church St.

Sedalia, Mo.—Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago, Ill.

Kansas City, Mo.—Sowers-Taylor Co., Independence and Jackson Aves.

Osage City, Kan.—Harry Swarts.

Hastings, Neb.—Hennings & Weber Tire Co.

Merna, Neb.—J. C. Zieg.

Caldwell, Kan. — Williams Oil Co., Anthony, Kan.

Middlefield, O.—E. O. and L. O. Halstead.

Wellington, O.—John Devies.

Reixinger's Corners, N. Y.—John and Willard Sherman.

Greenwich, N. Y.—Kesbec Sales Co.

Butler, Pa.—Sutton Gas & Oil Co.

Winona, Minn.—H & S Investment Co., Milwaukee.

Pembina, N. D.—A. J. Christopher.

Milltown, Wis.—A. H. Orban.

Selinsgrove, Pa.—James F. Raudenbush.

Cedar Falls, Ia.—Mrs. Mayme E. Boslough.

Houghton, Mich.—Alfred L. Paulson, Osceola.

Madison, S. D.—Dacotah Oil Co.

Lake City, Minn.—Farmers Elevator Co.

Minneapolis, Minn.—Gold Seal Oil Co., 528 N. 7th St.

Sycamore, Ill.—William Organ and Everett Leonard.

Waterloo, Ind.—Russel Silberg.

Hogarty, Wis.—Mrs. Doris Anderson.

West Bend, Wis.—Mr. Bohn.

Bruceton, Tenn.—Charles Parks, McKenzie.

Oakland City, Ind.—Ira Wilder.

Columbus, O.—Pure Oil Co., 35 E. Wacker Dr., Chicago, Ill.

Leslie, Mich.—Glenn L. Rearick, Williamston, Mich.

Springfield, O.—Sinclair Refining Co., 625 East Main St., Columbus, O.

Elm Grove, W. Va.—Watco Co. Inc.

Fond du Lac, Wis.—J. E. Hennen, 116 S. Main St.

Aplington, Ia.—A. M. Meier, Grundy Center, Ia.

Albert Lea, Minn.—Freebor County Oil Co.

Minneapolis, Minn.—C. W. Brown Mitchell Advertising Agency, 1711 E. 52nd St.

Minneapolis, Minn.—White Eagle Oil Co., 606 Vandalia Ave., St. Paul, Minn.

Minneapolis, Minn.—Crescent Oil Co., 1018 S. 2nd St.

Minneapolis, Minn.—L. O. Pettit, 717 First National-Soo Line Bldg.

Pikesville, Md.—Sherwood Bros., Baltimore Trust Bldg., Baltimore, Md.

Lansing, Mich.—H. S. Beach, Center St.

Montpelier, Ind. — Ben Swoveland, Huntington St.

Hancock, Wis.—John Holtz.

Clinton, Tenn.—D. Ward.

Eaton Rapids, Mich.—Ward Trimble.

Creston, Ill.—Howard Larson.

Tomahawk, Wis. — Nick Knudson, Merrill, Wis.

Winona, Minn. — Winona Oil Co., Franklin and Mark Sts.

Boone, Ia.—Sanders Motor Co.

Niles, Mich.—Southwestern Oil Co.

Harbor Springs, Mich.—General Oil Co., Boyne City, Mich.

Terre Haute, Ind.—Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago, Ill.

Galva, Ill.—Central Oil & Greasing Co., Rock Island, Ill.

Leslie, Mich.—Glenn L. Rearick, Williamston, Mich.

Charlotte, Mich. — Shell Petroleum Corp., Shell Bldg., St. Louis, Mo.

Mt. Carroll, Ill.—George Randecker E. Benton & S. Clay Sts.

Greenland, Mich.—William McCloskey, Greenland, Mich.

Huntington, Ind.—Wana Oil Co.

Cheboygan, Mich.—M. D. Fralick.

Harlan, Ky.—Clarence & Fielding Hensley.

Peoria, Ill.—Octave Andre, W. Garfield & Anna Ave.

Sioux City, Ia.—Hanford, Inc., 500 Pearl St.

Sioux City, Ia.—Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago, Ill.

Dekalb, Ill.—Otto Babcock.

Leslie, Mich.—Joseph Black.

Chicago, Ill.—Phillips Petroleum Co., Phillips Bldg., Bartlesville, Okla.

Wakarusa, Ind.—Joe Bontrager.

La Grange, Ky.—Shell Eastern Petroleum Products, Inc., 122 E. 42nd St., New York, N. Y.

Antigo, Wis.—Independent Oil Co., Philtower Bldg., Tulsa, Okla.

Augusta, Ill.—Phillips Petroleum Co., Phillips Bldg., Bartlesville, Okla.

Warsaw, N. Y.—Irving Helmer, Lamont.

Atlanta, Ga.—Specification Motoroil System, Sterick Bldg., Memphis, Tenn.

Portsmouth, R. I.—Joseph Roberts.

Baltimore, Md.—Kirke Bros., 1810 Morton St.

Baltimore, Md.—Charles Greenblat, 214 St. Paul St.

Baltimore, Md. — Parking Center Service Station, St. Paul Place & Center St.

Washington, D. C.—Chas. D. Holden, 2800 Alabama Ave., S. E.

Red Lodge, Mont.—Dominick Rosetto.

Wildwood, N. J.—Lynn H. Boyer, Wildwood & Pacific Aves.

Hartford, Conn.—Memorial Baptist Church, Washington & Jefferson Sts.

Greenville, S. C.—Shell Eastern Petroleum Products, Inc., 122 E. 42nd St., New York, N. Y.

Kingston, N. Y. — Joseph Levine, American Cigar Factory Bldg.

East Stroudsburg, Pa.—Cities Service Co., 60 Wall St., New York, N. Y.

Noblesville, Ind.—O. E. Talbert & Son.

Jacksonville, Fla.—B. Goldman, Magnolia & Second Sts.

Jacksonville, Fla.—W. F. Duggan, 12th & West Main Sts.

St. Marys, W. Va.—Curtis Mitchell, George St.

Cedar Falls, Ia.—Bruce Russell, 18th & Main Sts.

Burlington, Ia.—Carl Schwerin, Gratton & Agency Sts.

Evanston, Ill.—Maurice E. Brown, 3003 Central St.

Lebanon, Ind.—Bogart Oil Co.

Bear Lake, Mich.—Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago, Ill.

Xenia, O.—Schmidt Oil Co., Main & West Sts.

Akron, Ind.—Frank Barnes, Maple & Walnut Sts.

Winnetka, Ill.—Winnetka Coal & Lumber Co.

Fulton, Ind.—Johnson Oil Co.

Covington, Ky.—Joseph Koo, Sixth & Russell Sts.

Dunkirk, Ind.—Aaron Curry.

Houghton, Mich.—Angelo Villanelli & Herman Kovisto, Hancock, Mich.

Rushville, Ill.—H. Weinberg, North Liberty & East Adams Sts.

Portsmouth, O.—Minimax Gas Co.

Milwaukee, Wis.—R. & M. Trackage Oil Co., 2010 West Oklahoma Ave.

La Crosse, Wis.—L. A. Keizer, 935 West Ave., S.

Wakefield, Mass.—William T. Curley, Water & Crescent Sts.

Framingham, Mass.—Howard Realty Co., Worcester & Edgell Rds.

York, Pa.—Sun Oil Co., 1428 S. Penn Sq., Philadelphia, Pa.

Wakefield, Mass.—Mexican Petroleum Corp., 122 E. 42nd St., New York, N. Y.

Torrington, Conn.—Edward C. Adams, 65 New Ligchfield St.

Meriden, Conn.—Joseph J. White, 999 Broad St.

Ironwood, Mich.—Enrico Andreino, Summit Dr. & Frederick St.

Coloma, Wis.—John Holtz.

Superior, Wis.—D. A. Duffy, 6127 Tower Ave.

La Crosse, Wis.—L. A. Keizer, 1215 Jackson St.

Minneapolis, Minn.—F. I. Bailey, 2529 Pleasant Ave.

Cedar Falls, Ia.—Bruce Russell, 18th & Main Sts.

Burlington, Ia.—Carl Schwerin, Gratton & Agency Sts.

La Crosse, Wis.—Oscar J. Olson, 2718 South Ave.

Lafayette, Ind.—M. J. Ridder, Radnor.

Yale, Mich.—Eilber & Barth.

Winamac, Ind. — John Kruzick & Sherman Bridegroom.

Covington, Ky.—Standard Oil Co. of Kentucky, Louisville, Ky.

Bulk Stations

Onalaska, Wis.—Stark-Jacobson Co.

Menomonie, Wis. — Farmers Central Union Exchange of Menomonie.

Boyd, Wis.—Farmers' Union Central Exchange.

Cincinnati, O.—Sun Oil Co., 1428 Penn Sq., Philadelphia, Pa.

Sparta, Wis.—Farmers Co-operative Oil Co.

Frederick, S. D.—White Eagle Oil Co., 606 Vandalia Ave., St. Paul, Minn.

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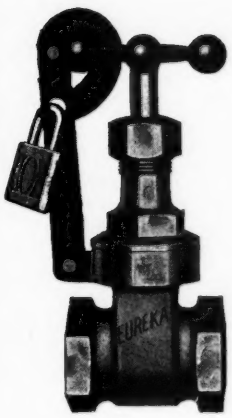

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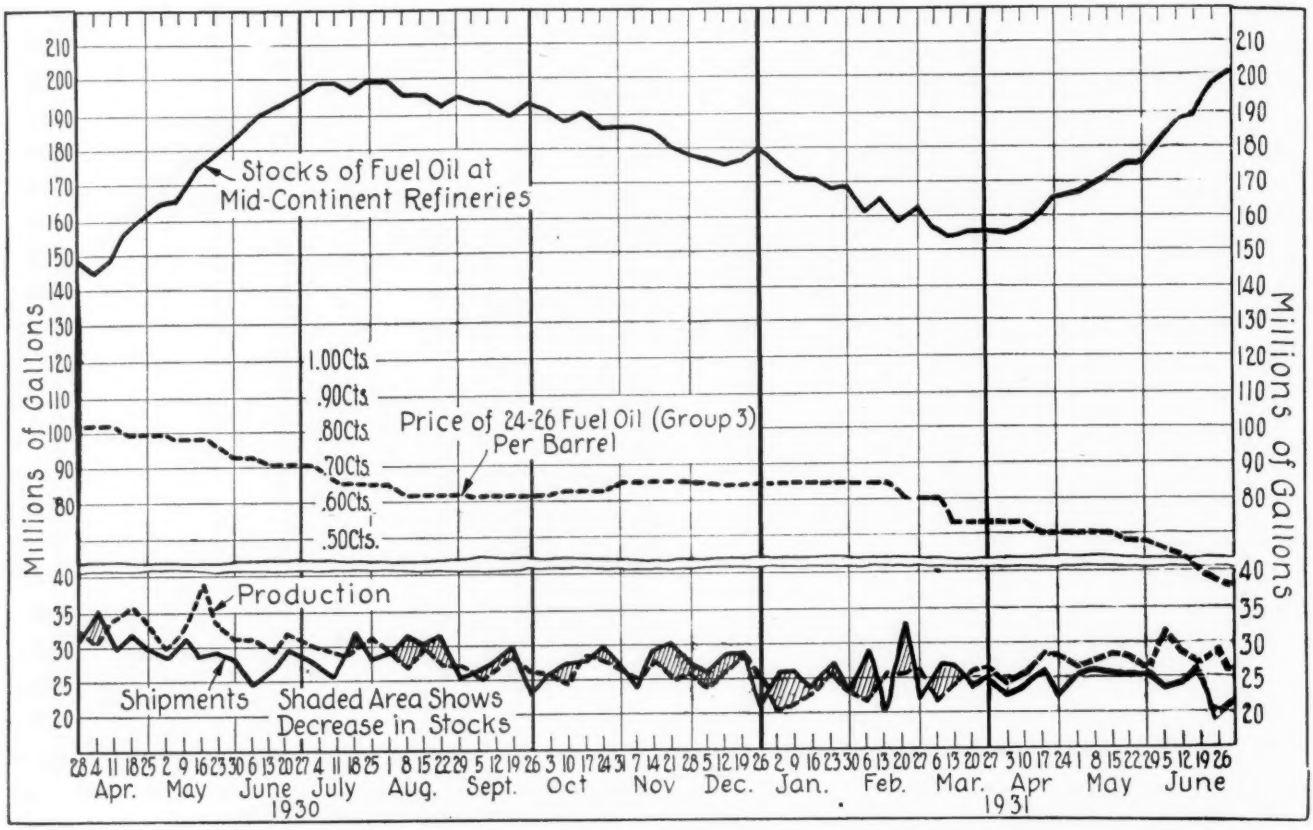
Barometer of Mid-Continent Refinery Market—Week Ending July 3

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News



California Refinery Market

North Pacific Coast Price Structure Improved

Staff Special

LOS ANGELES, July 2

CALIFORNIA markets were unusually quiet the past week, with quotations on several products shaded under the stress of competition.

Inquiries for bulk goods continued to be few. Quotations were for the most part purely nominal. Although some interest was reported in natural gasoline for export, traders thought it would be impossible to close a deal for this commodity at a reported price of 3 to 3.50 cents. This is of the 22 pounds vapor pressure goods and could not be moved in competition with prices quoted by Gulf suppliers.

The gasoline tank car situation in southern California was decidedly unsettled. Large storage capacities at independent service stations, filled at pre-war prices, have disrupted the local conditions. Although major and a majority of the large independent refiners were reported quoting tank car prices at 9 to 9.50 cents, exclusive of tax, for delivery within the state, a considerable quantity of gasoline was available at 6.50 to 7.50 cents.

Competitive price signs have again appeared at most major company stations, particularly in those areas where the cut-price dealers are the most active.

Price conditions in northern California, Oregon, and western Washington are reported much improved since the recent price advance.

Quotations on gasoline for delivery into adjoining states were generally 5.25 to 6.25 cents. One trader reported he had lost a sale into this territory at a price of less than 5 cents. A buyer in Utah was reported willing to pay 5.50 cents for a quantity of this product. The price for out of state goods would be around 5.75 to 6 cents on an average.

Natural gasoline was quoted at 5.50 cents, with few spot tank cars sold. A large quantity of this goods is reported in storage.

Heavy oils were practically unchanged. Fuel oil was quoted at 40 to 50 cents, and gas oil, 30-34 gravity was available at 75 to 90 cents.

Sales Higher In 1931

TORONTO—New bulk stations have been opened by Supertest Petroleum Corp. at Sarnia, Ont. and at Buckingham, Que. Three service stations of the latest type have been opened in Toronto recently. The company reports sales and profits to date are ahead of last year.

Ships to Albany by Tanker

NEW YORK, July 3.—Standard Oil Co. of New York has shipped a tanker of 3,000,000 gallons of gasoline to Albany. Previously the company had shipped gasoline to Albany by barge.

Pennsylvania Markets

Bright Stocks Active

CLEVELAND, July 6.—Activity in bright stocks featured the Pennsylvania market the past week. Prices were advanced 0.5c. Refiners reported only two months' supply of this product in storage. Several reported they were sold up and out of the open market.

Kerosine prices receded 0.125c on all grades, while it was noticed that generally, demand had slowed up.

Gasoline demand was fair. Prices today on the 58-60 gravity was lowered to 4.25c. The 60-62 grade went down to 4.375 and 68-70 to 5.25c. Refiners began reporting lower prices last week but sales were not actually made at the above prices until the first of this week.

Little activity was noted in fuel oil market. While all districts, except Bradford, reported only seasonal demand, refiners in this district reported using fuel oil for cracking.

Demand and prices of other commodities remained generally unchanged.

Newspaper Statement Is Challenged

CLEVELAND, July 3. — Men active in the oil industry and allied industries could do much to straighten out the newspapers, when they make misstatements about the oil industry, by at once calling attention of their editors to their published mistake.

When the Pittsburgh Post Gazette appeared a few days ago with a headline on the front page reading, "Five Injured By Explosion of Gasoline," H. S. Pell, vice president of the Sharpsville Boiler Works Co., Sharpsville, Pa., wrote the editor of that paper.

"The writer feels that this headline is very unjustified to the oil industry, as it cannot help but leave in the minds of everyone who reads headlines only—and we have to admit that there are many thousands of them—that there was another explosion of gasoline, when, as a matter of fact, the explosion was caused by a compressor where gasoline had no contact in any way, shape or form," he wrote.

"I believe, if you will be good enough to check up from the various national distributors of petroleum products in the Pittsburgh district, the number of gallons of gasoline dispensed each day, multiplying that by 365 days in the year, you will be surprised at the total gallonage dispensed with a minimum of accidents of any kind."

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Eastern Domestic Markets

Gasoline Moves in Large Volume

Staff Special
NEW YORK, July 3

ALL GRADES of gasoline moved in large volume through eastern seaboard markets this week. Jobbers were anticipating an increased demand on account of the holiday and in some instances were inclined to make commitments over a longer period than has been noted for many weeks. Prices showed a mixed trend.

Sellers of gasolines having a 65 octane number, or better anti-knock rating, were generally unwilling to accept lower than 5.25 cents in the key markets, while sales of gasoline having a lower octane rating were reported at prices under 5 cents. In a few instances, sales were made at 4.50 cents for the lower octane grades.

Generally speaking, regular U. S. Motor gasoline was quoted at 5.25 cents by sellers in the New York market and the majority of sales were made at that figure. Sellers in most quarters reported an excellent demand for their products. Many were inclined to refuse offers of lower prices from buyers of premium grades.

In most instances of price shading, it was learned that the gasolines sold at lower prices were grades which had a less satisfactory knock rating. This situation was more noticeable in the New York, Philadelphia, and Baltimore markets than elsewhere.

Gasoline prices were fairly steady in the Philadelphia market at 5.25 to 5.50 cents. A good turnover was reported by both refiners and brokers. Several jobbers were reported to be buying barge lots in the New York and Baltimore markets due to the Philadelphia sellers' unwillingness to shade prices.

Varied reports came from the Baltimore district. Some sellers of gasoline with a high anti-knock rating reported that they refused prices lower than 5.25 cents. From other quarters, it was said that sales were made at under 5 cents. An occasional sale at 4.50 cents was reported. However, the gasolines sold at under 5 cents were supplied by companies offering a grade with an octane rating around 60.

Spot activity in the New England markets was light at 5.75 cents Boston and Providence, and 6 cents f.o.b. Portland. Demand for gasoline under contract was reported fair. Jobbers were buying on a hand-to-mouth basis in most instances.

Gasoline was occasionally moved from Providence into Boston market in barges at prices based on the delivered prices obtainable from refiners in the Boston area.

Service station operators continued to employ a cut price policy of six gallons for 90 cents.

Heating oils were quoted a 0.25 cent lower by several major suppliers in Boston. The 28-34 gravity gas oil was quoted at 4.25 cents and the furnace oil at 5.25 cents.

Grade C bunker oil was steady at $0.85 per barrel at Boston and New York. Diesel oil was offered freely at $1.55 per barrel.

Seideman is Slack Traffic Manager

TULSA, July 3.—C. L. Seideman, formerly traffic manager for the Imperial Refining Co., has become affiliated with the Slack Refining Co. Mr. Seideman will be located in the Tulsa offices of the company.

Gulf Lubes Continue Slow

HOUSTON, July 6.—Manufacturers report no change in Gulf Coastal lubricant markets. Business generally is slow and confined to occasional spot sales or filling of shipping orders on contract material.

Gulf Coast Markets

Foreign Buying Wave Continues

Staff Special
NEW YORK, July 3

THERE was no let up the past week in the wave of foreign buying which hit this country nearly four weeks ago. Domestic buyers joined in the parade and the result was one of the busiest weeks in bulk markets at the Gulf that the oil trade has seen in many months.

Business known to have been closed the past week totaled four cargoes of light oils all for foreign shipment. A French buyer, the subsidiary of a leading American independent, took a mixed cargo consisting of approximately 38,000 barrels of 64-66, 375 end point gasoline, 18,000 barrels of U. S. Motor and 10,000 barrels each of water white and prime white kerosine.

French buyers also took two full cargoes of 64-66, 375 end point gasoline. Quantities involved were not disclosed. An English buyer purchased a full cargo of U. S. Motor gasoline.

Although prices paid in the above transactions were kept somewhat secretive by the principles involved, it was definitely determined that in each instance the 64-66, 375 end point gasoline brought 3.50 cents a gallon and the full cargo of U. S. Motor brought 3.125 cents. The U. S. Motor was said to have a relatively low knock rating. The four cargoes are for July-August loading.

Heavy oils got more play in the past week's market than for some time past. Inquiries remaining open as the week ended consisted of one for a full cargo of bunker C fuel oil and one for a mixed cargo of gasoline and fuel oil. The latter, from a French buyer, called for approximately the following quantities: 45,000 barrels of 64-66, 375 end point gasoline, and 9,000 barrels each of gas oil and fuel oil.

East coast buyers purchased two cargoes of California gasoline and a total of six inquiries for gasoline to be shipped from the Gulf were under negotiations by the New York trade as the week ended.

Although one French buyer purchased a cargo of gasoline in Roumania the past week, it was the consensus among the New York oil trade that American prices still were sufficiently low to hold the foreign market. At least the Roumanian sale was not indicative of a turn in the general situation in Roumania which would prove unfavorable to American suppliers.

The market for crude oil at the Gulf was quiet. Panuco heavy crude was offered at $0.45 to $0.46 per barrel, f.o.b. Tampico. East Texas crude was offered at $0.50 per barrel, f.a.s. the Gulf as against previous offers of $0.57 to $0.58. The Venezuela market continued largely nominal.

Wax Markets

Domestic Buyers Active

NEW YORK, July 3.—The inquiry by domestic buyers for all grades of wax was active the past week. Foreign buying was light. Prices were steady in both the New Orleans and New York markets.

Scale waxes were offered sparingly under 2 cents in either market. One seller was asking 2.15 cents per pound at New Orleans. The American market for the fully refined grades was likewise steady in spite of rumors that foreign suppliers were disposed to shade prices.

Automatic Conveyors

(*Continued from page 70*)

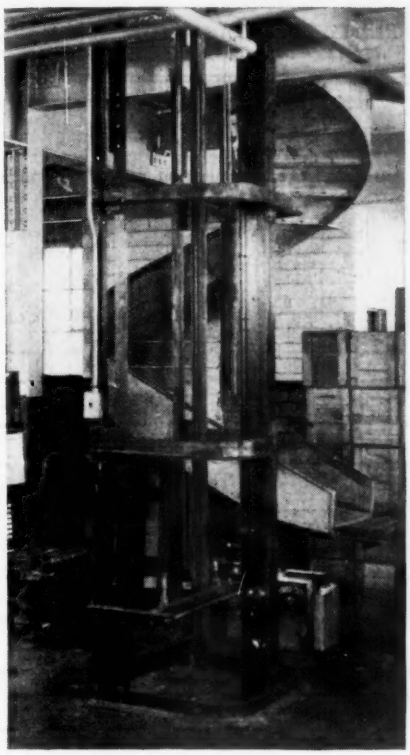
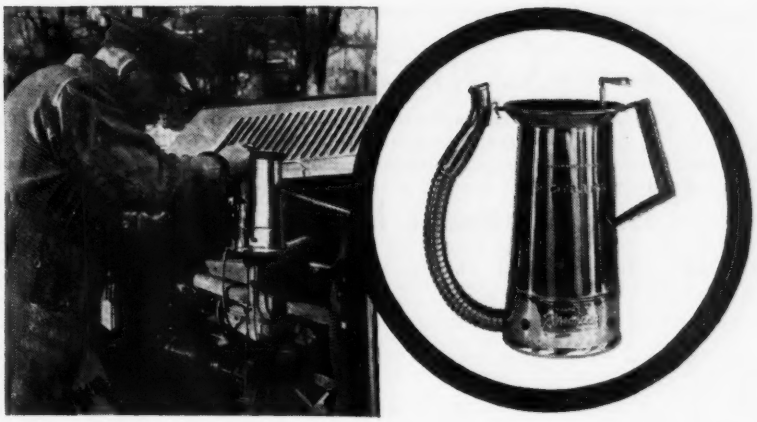


Fig. 4—Spiral chute, also part of the automatic conveyor system at the Quaker State Oil Refining Co. plant at Bradford, Pa., by which cases and crates are brought from storage on the second floor. Just in front of the chute is the "drop" elevator which lowers drums to a conveyor system on the first floor

of travel right angle to a portable section of gravity leading right into the car.

Cases and crates are also handled by the conveyor system. The cases containing the empty cans come in box cars and are handled in the same manner as the empty drums. They are also stored on the second floor. However, instead of using the "drop" elevator to lower the wooden cases a spiral chute is used, shown in Fig. 4. The cases descend on the spiral which leads to a roller conveyor. An operator at this point takes out the cans and places them on the can filling machine. After the cans are filled they are sealed and replaced in the case which travels down the conveyor to another operator who nails on the lids. The cases are then shoved down the line which leads directly to the "live" roller conveyor on the shipping platform. They are loaded in the same manner as the filled drums.

In this plant one man can unload a car of "empties" containing 250 large drums in about one hour. A meter fills a 55-gallon drum in slightly more than one minute. With all meters working, between four and five large drums are filled every minute. It, therefore, takes between 15 and 20 minutes to load a car of filled drums.



IT REFLECTS YOUR PRIDE IN THE OIL YOU SELL

The 1931 Brookins oil measure has a new, brilliant and enduring finish that broadcasts a sparkling message of scrupulous *cleanliness* to every customer who drives up to your station.

When you serve oil in this measure, the oil *looks* better, cleaner, higher-grade than the same oil looks in ordinary containers. The bright, mirror-like, polished surface of the Brookins measure reflects your pride in the oil you sell.

Your customers judge YOU largely by *your equipment.*

Equip your station throughout with Brookins "Satisfying aids to satisfying service". Ask your jobber salesman about the complete Brookins line—or ask us.

THE BROOKINS MANUFACTURING CO.

700 HAWTHORNE ST. DAYTON, OHIO

"Satisfying aids to satisfying service" 1-32

Complete Seaboard Market

Export Markets for whole year given in OIL HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations. Prices shown below do not include inspection tax levied in Florida and South Carolina.)

U. S. MOTOR GASOLINE, Below 65 Octane Number

	Prices July 6	Prices June 29	Prices June 22
New York Harbor	5.25	.....	.....
Philadelphia District	5.25	.....	.....
Baltimore District	5.00 – 5.25	.....	.....
U. S. MOTOR GASOLINE, 65 Octane Number and Above			
New York harbor	5.25 – 5.50	5.25 – 5.50	5.50 – 5.75
Portland district	6.00	6.00	6.50
Boston district	5.75	5.75	6.25
Providence district	5.75	5.75	5.75 – 6.25
Philadelphia district	5.25 – 5.50	5.25 – 5.50	5.50 – 5.75
Baltimore district	5.25 – 5.50	5.25 – 5.50	5.50 – 5.75
Norfolk district	5.50	5.50	6.00
Charleston district	5.50	5.50	6.00
Savannah district	5.50	5.50	6.00
Jacksonville district	5.50	5.50	6.00
CALIFORNIA U. S. MOTOR GASOLINE			
New York harbor	Discontinued	5.25 – 5.50	5.50 – 5.75
Philadelphia district	Discontinued	5.25 – 5.50	5.50 – 5.75
Baltimore district	Discontinued	5.25 – 5.50	5.50 – 5.75
‡DOMESTIC AVIATION GASOLINE			
New York harbor	9.50 –12.00	9.50 –12.00	9.50 –12.00
Philadelphia	9.50 –12.00	9.50 –12.00	9.50 –12.00
Baltimore	11.00 –12.00	11.00 –12.00	11.00 –12.00
Boston	11.50 –13.00	11.50 –13.00	11.50 –13.00

‡Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167°F. and not less than 122°F.; 50% recovery at 221°; 90% at 311°; 96% at 347° end point 374°F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

WATER WHITE KEROSINE			
New York harbor	4.75	4.75	5.00 – 5.25
Philadelphia district	4.75	4.75	5.00 – 5.25
Baltimore district	5.00	5.00	5.00 – 5.25
GAS OIL: 28-34 Gravity			
New York harbor	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00
Boston district	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50
FURNACE OIL: 36-40 Gravity			
New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Boston district	5.00 – 5.375	5.00 – 5.50	5.00 – 5.50
GRADE C BUNKER OIL (Lighterage 5c per bbl. additional)			
New York harbor	$0.85	$0.85	$0.85
Boston district	$0.85	$0.85	$0.85
DIESEL OIL			
New York harbor	$1.55	$1.55	$1.55

New York Export Market

(Lubricating oils are per gal. in bbls. F.a.s. New York)

	July 6	June 29	June 22
CYLINDER OILS (Pennsylvania Products)			
Bright stock, No. 8 color	22.00 –24.00	22.00 –25.00	22.00 –25.00
Bright stock, No. 6½ color diluted	21.00 –23.00	21.00 –24.00	21.00 –24.00
600 D filtered	22.00 –24.00	22.00 –25.00	22.00 –25.00
600 Warren E filtered	17.00 –19.00	17.00 –20.00	17.00 –20.00
600 stm. refd. unfiltered	13.50 –15.00	14.00 –16.00	14.00 –16.00
650 stm. refd. unfiltered	16.00 –18.00	16.50 –19.00	16.50 –19.00
600 flash steam refined	16.50 –19.00	16.50 –19.00	16.50 –19.00
630 flash, steam refined	22.00 –24.00	22.00 –24.00	22.00 –24.00
RED PARAFFIN OILS (Vis. 100°)			
300 vis. No. 6½ color	17.00 –20.00	17.00 –20.00	17.00 –20.00
250 vis. No. 6 color	16.50 –17.50	16.50 –17.50	16.50 –17.50
200 vis. No. 6 color	14.75 –17.00	14.75 –17.00	14.75 –17.00
PALE PARAFFIN OILS (Vis. 100°)			
230 vis. No. 3¾ color	21.50	21.50	21.50
180 vis. No. 3¼ color	18.00 –20.00	18.00 –20.00	18.00 –20.00
100 vis. No. 2¼ color	12.50 –15.00	12.50 –15.00	12.50 –15.00

Wax Market

(Melting points are A.M.P. method. Prices in cents per pound, f.a.s. carload lots.)

NEW YORK	July 6	June 29	June 22
124-126 Yellow crude scale	1.95	1.95	1.85
122-124 White crude scale	2.00 – 2.10	2.00 – 2.10	1.875– 2.00
124-126 White crude scale	2.00 – 2.10	2.00 – 2.10	1.875– 2.00
123-125 Fully refined	2.875– 3.125	2.875– 3.125	2.875– 3.125
125-127 Fully refined	2.875– 3.125	2.875– 3.125	2.875– 3.125
128-130 Fully refined	3.125– 3.375	3.125– 3.375	3.125– 3.375
130-132 Fully refined	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
133-135 Fully refined	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
135-137 Fully refined	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625
NEW ORLEANS			
124-126 Yellow crude scale	1.95	1.95	1.85
122-124 White crude scale	2.00 – 2.10	2.00 – 2.10	1.875– 2.00
124-126 White crude scale	2.00 – 2.10	2.00 – 2.10	1.875– 2.00
123-125 Fully refined	2.875– 3.125	2.875– 3.125	2.875– 3.125
125-127 Fully refined	2.875– 3.125	2.875– 3.125	2.875– 3.125
128-130 Fully refined	3.125– 3.375	3.125– 3.375	3.125– 3.375
130-132 Fully refined	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
133-135 Fully refined	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375

Gulf Coast Bulk Market

(Prices are f. o. b. Gulf oil terminals representing sellers' opinions covering bulk shipments of 20,000 barrels or more, for export and / or coastwise shipment unless otherwise noted.)

GASOLINE	Prices July 6	Prices June 29	Prices June 22
U. S. Motor	3.125– 3.375	3.125– 3.50	3.50 – 3.75
60-62, 400 e.p.	*3.25	3.25 – 3.50	3.625– 3.75
61-63, 390 e.p.	*3.375	*3.50	3.625
64-66, 375 e.p.	3.50	3.50	3.50 – 3.625
U. S. Motor, (cases cargoes)	$1.50	$1.50	$1.50
64-66, cases (cargoes)	$1.60	$1.60	$1.60
*Nominal.			
KEROSINE			
44 water white	3.25 – 3.50	3.25 – 3.50	3.50 – 3.75
41-43 prime white	3.00 – 3.25	3.00 – 3.375	3.375– 3.50
Water white, cases (cargoes)	$1.35	$1.35	$1.35
Prime white, cases (cargoes)	$1.25	$1.25	$1.25
GAS & BUNKER OILS			
*26-30 translucent gas oil	2.00 – 2.50	2.50	2.50 – 2.875
*30 plus translucent gas oil	2.00 – 2.50	2.50	2.50 – 2.875
Grade C bunker oil, for ships' bunkers, per bbl.	$0.70	$0.70	$0.70
Grade C bunker oil, per bbl. in cargoes	$0.60	$0.60	$0.55 –$0.60
*Less than ½ of 1% sulphur. †Represents sales only.			
MEXICAN CRUDE AND BUNKER OILS (f. o. b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl.	$0.45	$0.45	$0.45
Grade C bunker oil for bunkering, taxes paid, per bbl.	$0.70	$0.70	$0.70
VENEZUELA CRUDE			
F. o. b. deepwater, Lake Maracaibo region	.....	.....	Discontinued

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F cold test 0 Tanker, f. o. b. Gulf oil terminals.)

100 vis. No. 2 unfiltered pale	4.75 – 5.00	4.75 – 5.00	4.75 – 5.50
200 vis. No. 3 unfiltered pale	6.75 – 7.00	6.75 – 7.00	6.75 – 7.50
300 vis. No. 3 unfiltered pale	7.50 – 8.00	7.50 – 8.00	7.50 – 8.25
500 vis. No. 3½ unfiltered pale	8.75 – 9.00	8.75 – 9.00	8.75 – 9.50
750 vis. No. 4 unfiltered pale	10.00 –10.25	10.00 –10.25	10.25 –11.00
1200 vis. No. 4 unfiltered pale	11.75 –12.00	11.75 –12.00	14.00 –14.75
200 vis. No. 5-6 red oil	5.75 – 6.00	5.75 – 6.00	6.00 – 6.75
300 vis. No. 5-6 red oil	6.75 – 7.00	6.75 – 7.00	7.00 – 7.75
500 vis. No. 5-6 red oil	7.50 – 8.00	7.50 – 8.00	7.50 – 8.25
750 vis. No. 5-6 red oil	8.75 – 9.00	8.75 – 9.00	9.00 – 9.75
1200 vis. No. 5-6 red oil	10.75 –11.00	10.75 –11.00	12.00 –13.50

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	July 6	†June 29	June 22
Gasoline, U. S. Motor, 53-55 Gravity	3.25 – 4.00	3.25 – 4.00	3.25 – 4.00
Gasoline, U. S. Motor-blends and special cuts	3.375– 4.125	3.375– 4.125	3.375– 4.125
Gasoline, 400 e.p. blend	3.50 – 4.25	3.50 – 4.25	3.50 – 4.25
Gas Oil, 30-34 per bbl.	$0.85 –$0.90	$0.85 –$0.90	$0.85 –$0.90
Diesel Oil, 27 plus, per bbl.	$0.85 –$0.90	$0.85 –$0.90	$0.85 –$0.90
Bunker oil, 14-18 per bbl.	$0.55 –$0.70	$0.55 –$0.70	$0.55 –$0.70
Fuel oil, 14-18 per bbl.	$0.55 –$0.70	$0.55 –$0.70	$0.55 –$0.70
Kerosine, 38-40 w.w., 125-150 flash, per gal.	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
Cased Goods			
Gasoline, U. S. Motor	$1.45 –$1.55	$1.45 –$1.55	$1.45 –$1.55
Gasoline, 400 e.p. blend	$1.55 –$1.65	$1.55 –$1.65	$1.55 –$1.65
Kerosine, 38-40 w.w., 125-150 flash	$1.40 –$1.45	$1.40 –$1.45	$1.40 –$1.45

†June 29 prices are nominal in Pacific Export Market.

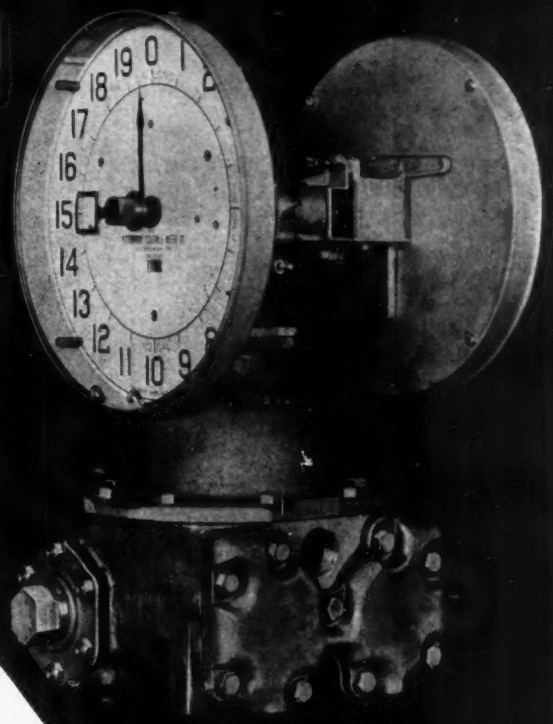
Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	July 6 Crude &/or Fuel	July 6 Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	†15	††15
Gulf to U. K. or Continental ports*	9	9
North Atlantic to U. K. or Continental ports*	7/6	7/6
Calif. to North Atlantic ports (not E. of N. Y.)	$0.45-$0.47	$0.45-$0.47
Gulf to North Atlantic ports (not E. of N. Y.)**	14-15	15

*Continental ports in the range between Bordeaux and Hamburg, both inclusive. **Venezuela loading same rate, for Tampico 2c to 3c per bbl. additional. †Last paid 12/6; owners ask 15. ††Last paid 11/6; owners ask 15.

Pittsburgh Piston Type Gasoline Meter



Accuracy and reliability, the prime essentials of any gasoline measuring device have been uppermost in the minds of our engineering department since 1912. Research, experimental work and the study of dispensing problems of the gasoline industry— all these have brought about the Pittsburgh Piston Type Gasoline Meter embodying the following features—

Two horizontal double acting pistons operating in brass lined cylinders. Flow controlled by means of a single rotary valve designed exclusively for use in Pittsburgh Piston type meters. Clock and meter available as a unit.

PITTSBURGH EQUITABLE METER COMPANY

Main Offices and Factories—Pittsburgh, Pa.

New York Chicago Dallas Salt Lake City Seattle Tulsa Kansas City Los Angeles Columbia Davenport Houston

Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect July 6, 1931, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Atlantic City, N. J.	10.7	3	13.7	15.7	10.5
Newark, N. J.	9.7	3	12.7	14.7	9.5
Annapolis, Md.	11.2	4	15.2	16.2	10
Baltimore, Md.	10.4	4	14.4	15.4	8.5
Cumberland, Md.	12.2	4	16.2	17.2	11
Washington, D. C.	10.9	2	12.9	13.9	9.7
Danville, Va.	12.0	5	17	18	10.8
Norfolk, Va.	10.5	5	15.5	16.5	9
Petersburg, Va.	11.5	5	16.5	17.5	10.3
Richmond, Va.	10.9	5	15.9	16.9	9.7
Roanoke, Va.	12.2	5	17.2	18.2	11
Charleston, W. Va.	11.7	4	15.7	16.7	10.5
Keyser, W. Va.	12.3	4	16.3	17.3	11.1
Parkersburg, W. Va.	10.4	4	14.4	15.4	9.2
Wheeling, W. Va.	11.6	4	15.6	16.6	10.4
Charlotte, N. C.	12.5	6	18.5	17.0	11.3
Hickory, N. C.	12.8	6	18.8	19.8	11.6
Mt. Airy, N. C.	12.7	6	18.7	19.7	11.5
Raleigh, N. C.	12.4	6	18.4	19.4	11.2
Salisbury, N. C.	12.7	6	18.7	19.7	11.5
Charleston, S. C.	10.5	6	16.5	17.5	9.3
Columbia, S. C.	12.4	6	18.4	19.4	11.2
Spartanburg, S. C.	12.7	6	18.7	19.7	11.5

Note: 2c per gallon discount off retail t.w price of gasoline to dealers thru S. O. New Jersey territory, except Maryland and Washington, D. C. where discount is 3c.

S. O. NEW YORK

Greater New York City:					
Boroughs of Manhattan, Bronx, Queens & Kings	11.3	2	13.3	15.3	10
Borough of Richmond	11.7	2	13.7	15.7	12
Albany, N. Y.	12.6	2	14.6	16.6	10.5
Buffalo, N. Y.	10.8	2	12.8	12.8	10
Rochester, N. Y.	11	2	13	13	10
Syracuse, N. Y.	10	2	12	14	10.5
Boston, Mass.	11.5	3	14.5	16.5	10
Augusta, Me.	12.8	4	16.8	18.8	12.8
Manchester, N. H.	12.4	4	16.4	18.4	10
Burlington, Vt.	13.3	4	17.3	19.3	11
New Haven, Conn.	12.6	2	14.6	16.6	10
Providence, R. I.	10.5	2	12.5	14.5	10

Discounts on gasoline: 2c per gal. off posted t.w. price to dealers, thru territory, except 3c to dealers in New York City, effective Feb. 20, 1931.

ATLANTIC REFINING

Pittsburgh, Pa.	11	*	11	16	12
Philadelphia, Pa.	11	*	11	16	12
Allentown, Pa.	11	*	11	16	12
Erie, Pa.	11	*	11	16	12
Scranton, Pa.	11	*	11	16	12
Altoona, Pa.	11	*	11	16	12
Dover, Del.	11	3	14	16	12
Wilmington, Del.	11	3	14	16	12
Boston, Mass.	11.5	3	14.5	16.5	11
Springfield, Mass.	12.5	3	15.5	17.5	10
Worcester, Mass.	12.3	3	15.3	17.3	11
Fall River, Mass.	12	3	15	17	11
Providence, R. I.	10.5	2	12.5	14.5	10
Hartford, Conn.	12.5	2	14.5	16.5	10
New Haven, Conn.	12.6	2	14.6	16.6	10
Atlantic City, N. J.	10.7	3	13.7	15.7	10.5
Camden, N. J.	9.8	3	12.8	14.8	9.6
Trenton, N. J.	10.2	3	13.2	15.2	10
Annapolis, Md.	11.2	4	15.2	16.2	10
Baltimore, Md.	10.4	4	14.4	15.4	8.5
Hagerstown, Md.	11.9	4	15.9	16.9	10.7
Richmond, Va.	10.9	5	15.9	16.9	10.7
Wilmington, N. C.	10.6	6	16.6	17.6	9.4
Brunswick, Ga.	12	6	18	20	**14
Jacksonville, Fla.	11	6	17	18	12

Note: 2c per gal. discount off t.w. price of gasoline on sales to dealers: discount to commercial accounts under contract for one year in accordance with Code of Ethics.

*3-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosine prices include 1c state tax.

S. O. KENTUCKY

Lexington, Ky.	12	5	17	18	12
Louisville, Ky.	11	5	16	17	11
Paducah, Ky.	12	5	17	18	11

Latest Changes in Tank Wagon Prices

Gasoline

S. O. New York—T.w. and s.s. cut 2.8c, Syracuse, to 12c and 14c, respectively, including 2c state tax **June 25.**

S.s. only cut 2c, Buffalo and Rochester districts, to 12.8c and 13c respectively, including 2c tax, **June 24.**

T.w. and s.s. cut 1.2c, Providence, to 12.5c and 14.5c respectively, including 2c tax, **June 23.**

S. O. Kentucky—T.w. and s.s. cut 2c, Atlanta, to 14c and 16c, respectively including 6c tax, **June 27.**

S. O. Ohio—S.s. only cut 1c, thru Clark, Cuyahoga, Franklin, Miami, Montgomery, Preble and Summit counties, to 15c, including 4c tax, **July 6.**

S. O. California—Tank truck and retail prices up 1.5c, Phoenix, to 14.5c and 17.5c respectively, including 5c tax, **July 3.**

Tank truck and retail prices up 2c, Spokane, to 17.5c and 20.5c, including 5c tax, **July 3.**

S. O. Louisiana—T.w. and s.s. up 1c, thru Tennessee, to cover tax increase to 6c, **July 1.**

Continental Oil—S.s. only cut 3c, Grand Junction, to 16c, including 4c tax, **June 11.**

T.w. only cut 3c, Grand Junction, to 13c, including 4c tax, **June 30.**

T. w. and s.s. cut 1.5c, Salt Lake City, to 14c and 17c, respectively, including 4c tax, **June 26.**

T.w. and s.s. up 1c, thru Idaho, except Twin Falls up 3c, **June 29.**

Discount to dealers off tankwagon, **June 29:** Boise 1c, Twin Falls 3c.

Kerosine

Atlantic Refining—Correction: Kerosine price cut 1c, Wilmington, N. C., to 9.4c t.w., **June 16.**

S. O. Louisiana—Kerosine cut 1c, Chattanooga, to 12c, **June 24.**

Aviation Gasoline

Continental Oil—T.w. cut 1.5c Salt Lake City, to 17c, including 4c tax, **June 26.**

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Covington, Ky.	11	5	16	17	11
Jackson, Miss.	11	5	16	18	11.5
Vicksburg, Miss.	11	5	16	16	11.5
Birmingham, Ala.‡‡	10	4	14	16	13
Mobile, Ala.‡	12	4	16	18	13
Montgomery, Ala.*	12	4	16	18	13.5
Macon, Ga.	10	6	16	18	†12
Atlanta, Ga.	8	6	14	16	*†12.5
Augusta, Ga.	12	6	18	20	†14
Savannah, Ga.	10	6	16	18	†12
Jacksonville, Fla.	11	6	17	18	12
Miami, Fla.	12	6	18	20	13
Tampa, Fla.	11	6	17	18	12
Pensacola, Fla.**	13	6	19	20	13

Note: Net price of gasoline to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosine at Montgomery included.

†Georgia kerosine prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola which went into effect Oct. 15, 1926.

‡Mobile gasoline prices include 1c city tax.

‡‡Birmingham gasoline prices include 1c city tax.

*†3c discount off t.w. price of oil at Atlanta, meeting competition.

S. O. INDIANA

‡(Red Crown Gasoline)

Chicago, Ill.	11	3	14	14	9
Decatur, Ill.	11.4	3	14.4	14.4	9
E. St. Louis, Ill.	10.7	3	13.7	13.7	8.2
Joliet, Ill.	11.4	3	14.4	14.4	9
Peoria, Ill.	11.4	3	14.4	14.4	9
Quincy, Ill.	11.2	3	14.2	14.2	8.8
Springfield, Ill.	11.4	3	14.4	14.4	9
Indianapolis, Ind.	11.3	4	15.3	15.3	10.1
Evansville, Ind.	11.1	4	15.1	15.1	9.9
South Bend, Ind.	11.4	4	15.4	15.4	10.2
Detroit, Mich.	11.8	3	14.8	14.8	10.7
Grand Rapids, Mich.	11.7	3	14.7	14.7	10.6
Saginaw, Mich.	11.9	3	14.9	14.9	10.8
Green Bay, Wisc.	11.6	4	15.6	15.6	9.4
Madison, Wisc.	11.3	4	15.3	15.3	9.1
Milwaukee, Wisc.	11.1	4	15.1	15.1	8.9
La Crosse, Wisc.	12.2	4	16.2	16.2	10
Minneapolis, Minn.	12.2	3	15.2	15.2	9.9
Duluth, Minn.	12.5	3	15.5	15.5	9.9
Mankato, Minn.	12.1	3	15.1	15.1	9.7
Des Moines, Ia.	11.5	3	14.5	14.5	9.3
Davenport, Ia.	11.5	3	14.5	14.5	9.3
Sioux City, Ia.	11.1	3	14.1	14.1	8.9
Mason City, Ia.	11.5	3	14.5	14.5	9.3
St. Louis, Mo.	*10.9	2	12.9	12.9	8.3
Kansas City, Mo.	†11.9	2	13.9	13.9	7.6
St. Joseph, Mo.	†11.5	2	13.5	13.5	7.5
Fargo, N. D.	13.9	3	16.9	16.9	11.9
Grand Forks, N. D.	14.2	3	17.2	17.2	12.2
Minot, N. D.	13.9	3	16.9	16.9	11.9
Pierre, S. D.	12	4	16	16	10.4
Huron, S. D.	12.3	4	16.3	16.3	10.7
Wichita, Kans.	9.8	3	12.8	12.8	7.8
Bartlesville, Okla.	8	5	13	16	7.5

‡Stanolind Blue prices are normally 2c under those shown above. At the following points, prices are below normal on Stanolind Blue:

(Stanolind Blue Gasoline)

			Total	
	T.W.	Tax	T.W.	S.S.
Chicago	8	3	11	10
Springfield, Ill.	9.4	3	12.4	10
Joliet, Ill.	9.4	3	12.4	11.4
St. Louis	*6.4	2	8.4	8.4
St. Joseph, Mo.	†6.9	2	8.9	8.9
Detroit, Mich.	6.5	3	9.5	9.5
Grand Rapids, Mich.	9.7	3	12.7	11.1
Marquette, Mich.	11.9	3	14.9	14.9
Wichita, Kan.	6.8	3	9.8	8.8
Minneapolis, Minn.	10.2	3	13.2	12
South Bend, Ind.	9.4	4	13.4	12.5
Davenport, Ia.	9.5	3	12.5	10.9
Des Moines, Ia.	9.5	3	12.5	9.9
Sioux City, Ia.	9.1	3	12.1	9.1
Milwaukee, Wis.	9.1	4	13.1	12
La Cross, Wis.	10.2	4	14.2	12.5

*Includes city tax of ½c.

†Includes city tax of 1c.

Discounts: Q.D.A., effective May 11, 1931, on gasoline.

Above prices include these inspection fees on both gasoline and kerosine, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosine; Arkansas, 1/20c on both; Florida, 1/8c on both; Illinois, 3/100c on both; Indiana, 2/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 1/50c to 1/2c on both; Nebraska 3/100c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosine; Wisconsin, 1/25c on both.

Kerosine inspection fees only, per gallon: Iowa 7/100c; Michigan, 1/5c to 4/5c per gal.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

These Prices in Effect July 6, 1931, as Posted by Principal Marketing Companies

To re-sellers, thru territory, except Chicago:

	Under 75,000 Gals. Off S.S. Price	75,000 Gals. and Over Off T.W. Price
Ethyl gasoline	3c	4c
Red Crown gasoline	2.5c	3.5c
Stanolind Blue	1c	2c

In Chicago, in any quantity, discounts are 4c per gal. on Ethyl gasoline, 3.5c on Red Crown, and 2c on Stanolind Blue, discounts being off service station prices in quantities up to 75,000 gallons, and off t.w. price in quantities of 75,000 gallons and over.

To consumers, thru territory, except Chicago:

	1,000 to 75,000 Gallons Off T.W. Price	75,000 Gals. and Over Off T.W. Price
Ethyl gasoline	3c	4c
Red Crown gasoline	2.5c	3.5c
Stanolind Blue	1c	2c

In Chicago, in quantities over 1,000 gallons: Ethyl gasoline, 4c; Red Crown 3.5c; Stanolind Blue, 2c, all discounts being off tank wagon price.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	Oil S.S.	Oil T.W.
Ohio statewide	11	4	15	16	12
Pickaway county	10	4	14	14	12
Clark, Cuyahoga, Franklin, Miami, Montgomery, Preble, Summit and Williams Counties	11	4	15	15	12

Note: Discount on gasoline to dealers and commercial consumers generally thru Ohio is 2c per gal. off above t.w. prices except in counties where prices are below statewide schedule, discount is generally 3c.

Discount on kerosine to dealers and commercial consumers is 3c per gal. off t.w. price thru Ohio.

S. O. NEBRASKA

Omaha, Neb	8.9	4	12.9	12.9	9.25
McCook, Neb	12	4	16	17.75	10.75
Norfolk, Neb	11.75	4	15.75	16.75	9.75
North Platte, Neb	12.75	4	16.75	17.75	10.5
Scottsbluff, Neb	12	4	16	16	10.25

Note: Discounts: Ethyl gasoline, 3c off normal service station price; Red Crown gasoline, 2.5c off s.s. price, effective April 20, 1931.

S. O. LOUISIANA

	Gasoline Posted Retail T.W.	Tax	Total Posted Retail T.W.	Oil Posted Retail S.S.	Oil T.W.
Little Rock, Ark	9.5	6	15.5	16	11
Alexandria, La	9.5	*6	15.5	16.5	†12
Baton Rouge, La	9.5	5	14.5	15.5	†12
New Orleans, La	9.5	*6	15.5	16.5	†12
Lake Charles, La	9.5	*6	15.5	16.5	†12
Shreveport, La	9.5	5	14.5	15.5	†12
Lafayette, La	9.5	*6	15.5	16.5	†12
Bristol, Tenn	12.5	6	18.5	19.5	14
Chattanooga, Tenn	11.5	6	17.5	18.5	12
Knoxville, Tenn	12	6	18	19	13.5
Nashville, Tenn	11	6	17	18	12.5
Memphis, Tenn	8	6	14	15	10

Note: Discounts in S. O. La. territory: To dealers and commercial consumers from the tankwagon, 2c per gal. off posted retail t.w. price.

*Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 5c state tax and 1c parish tax. New Orleans kerosine price includes 1c parish tax in addition to 1c state tax.

†Kerosine price in Louisiana includes 1c state tax.

MAGNOLIA PETROLEUM

	Gasoline T.W.	Tax	Total T.W.	Oil S.S.	Oil T.W.
Muskogee, Okla	7	5	12	15	8
Oklahoma City	5	5	10	12	7
Tulsa, Okla	5	5	10	12	8
Fort Smith, Ark	10	†5	15	15	11
Little Rock, Ark	10	6	16	16	11
Texarkana, Ark.*	12	*4	16	16	10
Dallas, Tex	9	4	13	16	8
Fort Worth, Tex	8	4	12	14	8
Houston, Tex	8	4	12	16	11
San Antonio, Tex	10	4	14	18	10
El Paso, Tex	9	4	13	17	12

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 6c Arkansas tax applies.

†Fort Smith gasoline prices include Oklahoma tax of 5c; outside Fort Smith, Arkansas tax of 6c applies.

CONTINENTAL OIL

	Gasoline T.W.	Tax	Total T.W.	Oil S.S.	Oil T.W.
Denver, Colo	10	4	14	17	12.5
Pueblo, Colo	10	4	14	17	12
Grand Junc., Colo	9	4	13	16	14.5
Casper, Wyo	11	4	15	18	10
Cheyenne, Wyo	12	4	16	19	11.5
Butte, Mont	12	5	17	20	16
Helena, Mont	15	5	20	23	16
Salt Lake City, Utah	10	4	14	17	16
Boise, Ida	†14	5	†19	22	18
Twin Falls, Ida	†13	5	†18	..	18
Albuquerque, N. M.	11	*6	17	21	14

*Tax includes 5c state tax and 1c city tax.

†Less 1c per gal. discount off t.w. to dealers at Boise; less 3c at Twin Falls.

S. O. CALIFORNIA

	State Tax	Gasoline Tank Truck	*Retail	Oil T.W.
San Francisco, Cal.	3	13.5	16.5	15.5
Los Angeles, Cal.	3	13	16	15.5
Fresno, Cal.	3	13.5	16.5	17
Phoenix, Ariz.	5	14.5	17.5	20
Reno, Nev.	4	17.5	20.5	19
Portland, Ore.	4	15	18	16.5
Seattle, Wash.	5	16	19	20.5
Spokane, Wash.	5	17.5	20.5	20.5
Tacoma, Wash.	5	16	19	20.5

Note: No discounts off above gasoline prices; tank truck prices are those to resale trade; wholesale prices are generally 6c above tank truck prices, except at Phoenix, 1c.

*Retail prices are those of Standard Stations, Inc., marketing subsidiary of the Standard Oil Co. of California.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W.	Tax	Total T.W.	Oil S.S.	Oil T.W.
ONTARIO					
Toronto	16	5	21	24.5	17
Ottawa	17	5	22	25.5	18
North Bay	20	5	25	30.5	21
Fort William	19.5	5	24.5	28	19.5
Border Cities, including Windsor	16	5	21	24.5	15
MANITOBA					
Winnipeg	18	5	23	26.5	18.5
SASKATCHEWAN					
Regina	22	5	27	31	22
ALBERTA					
Edmonton	23	5	28	31.5	23
Calgary	19.5	5	24.5	28	19.5
BRITISH COLUMBIA					
Vancouver	21	5	26	28	22
QUEBEC					
Montreal	17	5	22	25.5	18
Quebec City	19	5	24	27.5	20
Three Rivers	19	5	24	27.5	20
NEW BRUNSWICK					
St. John	18.5	5	23.5	27.5	20.5
Moncton	18.5	5	23.5	27.5	20.5
NOVA SCOTIA					
Halifax	18.5	5	23.5	27.5	20.5
PRINCE EDWARD ISLAND					
Charlottetown	18.5	5	23.5	27.5	20.5

Note: In districts surrounding these points 1c additional is added to city price.

NAPHTHA PRICES

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	10.7	12.7	14.2
Detroit	13.4	14.9	15.7
Kansas City	†11.9	†13.4	†14.2
Milwaukee	12.4	*15.9	*16.7
Minneapolis	**16.7	**18.2	**19
St. Louis	11.6	13.1	13.9
New York		14	20
Boston		17	20

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)	
New York Harbor	9.50
Philadelphia district	9.50
Providence	10.00
Tank Wagon or Steel Barrels	
New York City	14
Syracuse	17
Rochester	17
Buffalo	16
Providence	17
Boston	17
Bridgeport	15
Newark	16
Philadelphia	14
Lancaster	17
Altoona	17
Baltimore	17

Note: 2c off above t.w. prices to large buyers in some instances.

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories showing state and municipal taxes:

S. O. NEW JERSEY

Prices in Effect July 6, 1931

	T.W.	Tax	Total T.W.
Newark, N. J.	14.9	*	14.9
Baltimore, Md.	16.2	4	20.2
Washington, D. C.	15	2	17

*New Jersey road tax of 3c does not apply on aviation gasoline, exemption being claimed at time of purchase.

All above prices are on Stanavo Aviation Gasoline.

COLONIAL BEACON OIL CO.

New York City	17.5	2	19.5
Boston, Mass.	19	3	22

S. O. PENNSYLVANIA

Philadelphia, Pa.	15	3	18
Pittsburgh, Pa.	15	3	18
Altoona, Pa.	15	3	18

S. O. OHIO

Thru Ohio	15	4	19

Discounts given by S. O. Ohio: For delivery to airports only; 2,000 gals. or over per month, 1c per gal.; 6,000 gals. or over per month, 2c; 12,000 gals. and over per month, 3c; 24,000 gals. and over per month, 4c.

S. O. INDIANA

Chicago	14	3	17
Indianapolis, Ind.	14.3	4	18.3
Detroit, Mich.	14.8	3	17.8
Milwaukee, Wis.	14.1	2	16.1
Minneapolis, Minn.	15.2	3	18.2
St. Louis, Mo.	13.4	2.5	15.9
Kansas City, Mo.	13.9	3	16.9
Fargo, N. D.	16.9	3	19.9
Huron, S. D.	15.3	4	19.3
Wichita, Kan.	12.8	3	15.8

In S. O. Indiana territory, buyer pays state and city taxes on aviation gasoline, and if he can get a refund from the state, he does so. Kansas City tax of 3c includes 1c city tax; St. Louis tax of 2.5c includes ½c city tax.

S. O. LOUISIANA

New Orleans, La.	18	6	24
Nashville, Tenn.	20	5	24
Memphis, Tenn.	19	5	24

2c per gal. discount off above posted retail t.w. prices to dealers and commercial consumers.

S. O. NEBRASKA

Omaha	16.25	4	20.25

2c per gal. refund to reseller.

CONTINENTAL OIL CO.

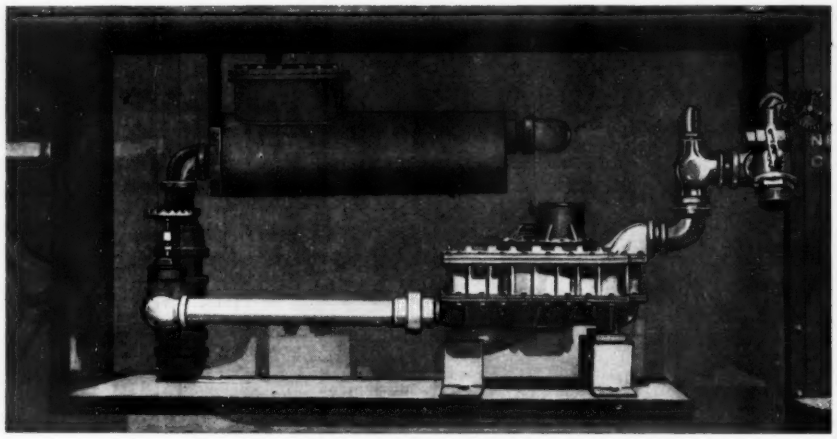
Denver, Colo.	13	4	17
Cheyenne, Wyo.	15	4	19
Helena, Mont.	18	5	23
Salt Lake City, Utah	13	4	17
Albuquerque, N. M.	15	*6	21
Boise, Ida.	16	5	21

*Tax includes 5c state tax and 1c city tax.

S. O. CALIFORNIA

Phoenix, Ariz.	17.5	4	21.5
Los Angeles, Cal.	16.5	3	19.5
San Francisco, Cal.	17	3	20
Reno, Nev.	21	4	25
Portland, Ore.	17.5	4	21.5
Seattle, Wash.	17.5	3	20.5
Spokane, Wash.	21.5	3	24.5

Note: 4c per gallon added to t.w. price, in S. O. California territory, to customers taking delivery direct into the fuel tank of planes.



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on PUMPER TRUCK with GRANBERG Air Separator and Strainer. This is a photograph of a typical installation and is widely used for measuring pumped deliveries of furnace, fuel, diesel and other types of burner oils. The Air Separator prevents the discharge of air through meter when tank is pumped empty. Granberg Meter installations on pump equipped furnace oil trucks will permit accurate deliveries of any quantity of oil. Your customers will be better satisfied and your sales will be increased.

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Greasing

28 articles published in National Petroleum News the past 10 months have been devoted exclusively to telling how to sell lubrication service, how to grease cars properly and profitably. How to build greasing stations, how grease is sold and other grease problems, are also discussed in these stories.

Here are references to these 28 articles:

1931

Chemist in charge of lubrication insures correct work June 24, p. 77
Motor oil merchandising helped by displays June 24, p. 87
Quality, service pushed to meet low price oils June 24, p. 91
Equipment sells lubrication June 10, p. 61
Navy bearing test shows relative quality of lubricants June 10, p. 47
Synthetic lubricants of constant viscosity with varying temperature June 3, p. 47
Specialized lubrication requires variety of oils and greases May 27, p. 85
New Federal lube oil specifications use "credit system" for rating April 29, p. 79
Modernizing lube department keeps customers coming in April 22, p. 69
Personal inspection sells lubrication jobs April 15, p. 88
Grease It, Please! Survey of greasing jobs at Indianapolis and Cleveland stations April 15, p. 73; March 25, p. 25
Synthetic lubricants made by oil chemists April 8, p. 33
Auto makers to merchandise lubrication to car dealers March 18, p. 33
Lube oil research planned by Mid-Continent refiners March 18, p. 31
Lubricant performance improved by narrow operating temperature range March 11, p. 32-D
Free greasing keeps servicemen on toes Feb. 25, p. 76
Oiliness in lubricants is function of surface tension Feb. 4, p. 63
S.A.E. numbers applied to rear axle lubes Jan. 28, p. 30

1930

Auto dealers get warmer on lubrication business Dec. 3 p. 25
Lubrication built business for one station operator Nov. 26 p. 64
New greasing station has five lifts, 14 pressure, 10 hand guns Oct. 15, p. 91
"Certified lubrication" includes training in own school, lube charts, special merchandising problems Sept. 24, p. 161
Socony's list of lubrication points on all cars Sept. 24, p. 169
Lube oil resistance to decomposition Aug. 13, p. 63
Typical analyses of lube oils Aug. 13, p. 65
Advantages of new consistometer in testing greases, oils Aug. 6, p. 63
Shell's school on lubrication Aug. 6, p. 95

Back copies of any of the above issues are 25c a copy. On issues that are exhausted, photostats will be furnished at 40c per page. Libraries in the larger cities generally keep back files of National Petroleum News complete.

National Petroleum News
Main Office: 1213 West Third St.
Cleveland, Ohio

Crude Oil Prices (in Effect July 6, 1931)

Crude prices for the whole year in OIL PRICE HANDBOOK published annually

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective June 3, 1931) $1.75
Penna. Grade Oil in National Transit Lines (Effective June 3, 1931) *1.50
Penna. Grade Oil in Southwest Penna. Pipe Lines (Effective June 3, 1931) 1.35
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective June 3, 1931) 1.25
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective June 3, 1931) 1.00
Corning Grade in Buckeye Pipe Lines (Ohio) (Effective June 3, 1931) 0.65
Somerset oil in main system of Cumberland Pipe Line (posted by Ashland Refining Co.) (Effective June 5, 1931) $0.55
Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929.) $0.60
*Oil run prior to July 1, 1929 is 5c less per bbl.

(Posted by Stoll Oil Refining Co.)

City, Ky., oil in Stoll lines (Effective June 6, 1931) $0.50

MICHIGAN

(Posted by Dixie Oil Co.)

Traverse and Dundee (Muskegon), effective June 1, 1931, same gravity and price schedule as Stanolind posts in Oklahoma, Kansas and North Texas, which see below.

(Posted by Pure Oil Co.)

Midland, Midland County (June 1, 1931) $0.52

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective June 2, 1931

Wooster	$0.73	Princeton	$0.55
Lima	0.70	Illinois	0.55
Waterloo	1.20	West Kentucky	0.50
Indiana	0.35		

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Effective June 4, 1931

Petrolia $1.75
Oil Springs 1.82

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of *Stanolind Crude Oil Purchasing Co.

(In Oklahoma, Kansas, North and North Central Texas)

Effective June 1, 1931

Below 29	$0.25	35-35.9	$0.32
29-29.9	0.26	36-36.9	0.33
30-30.9	0.27	37-37.9	0.34
31-31.9	0.28	38-38.9	0.35
32-32.9	0.29	39-39.9	0.36
33-33.9	0.30	40 and above	0.37
34-34.9	0.31		

*Prairie Oil & Gas withdrew postings in Oklahoma, Kansas and Texas, Jan. 1, 1931.

Effective June 2, The Texas Co. met above prices; on June 1, Continental Oil Co. met.

Humble Oil & Refining Co.

(In North and North Central Texas)

Effective June 3, Humble pays in North Texas, Ranger, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona, same prices as Stanolind in Oklahoma, Kansas, etc., which see.

East Texas postings discontinued June 3.

East Texas

East Texas $0.20

Above price posted by Magnolia, June 20; by Sinclair and Gulf, June 24.

OKLAHOMA, KANSAS and TEXAS

Magnolia Petroleum Co.
Effective June 20, 1931

Oklahoma:

Cushing, Morrison, Oklahoma City, Seminole, Wewoka and Yale $0.36
Cement, Duncan and Walters 0.32
Hewitt and Graham 0.28
Healdton 0.25

Kansas:

Augusta $0.30

Texas:

North and North Central:
Archer, Burkburnett, Comanche, Electra, Henrietta, Olden and Stephens $0.35
East Texas $0.20
East Central Texas:
Thrall $0.35
Central Texas:
Mexia, Wortham, Corsicana Light, Panola county and Lytton Springs $0.34
Panhandle:
Gray county $0.30
Carson-Hutchinson counties 0.26

LOUISIANA-ARKANSAS

North Louisiana:

Bull Bayou $0.36
Cotton Valley 0.25
Haynesville 0.27
Pine Island 0.32

Arkansas:

El Dorado and Rainbow $0.25

PANHANDLE TEXAS

Humble Oil & Refining Co.

Effective June 3, 1931

Hutchinson and Carson Counties:

Below 35	$0.21	38-38.9	$0.25
35-35.9	0.22	39-39.9	0.26
36-36.9	0.23	40 and above	$0.27
37-37.9	0.24		

Gray County:

Below 35	$0.24	38-38.9	$0.28
35-35.9	0.25	39-39.9	0.29
36-36.9	0.26	40 and above	0.30
37-37.9	0.27		

Above prices posted by The Texas Co. on June 3 in Hutchinson, Carson and Gray counties.

Wheeler County: Posted by Magnolia Pet. Co, Effective Apr. 10, 1930. Humble withdrew Wheeler county postings Apr. 10, 1930.

Below 30	$0.755	37-37.9	$1.11
30-30.9	0.805	38-38.9	1.145
31-31.9	0.855	39-39.9	1.18
32-32.9	0.905	40-40.9	1.215
33-33.9	0.955	41-41.9	1.25
34-34.9	1.005	42-42.9	1.285
35-35.9	1.04	43-43.9	1.32
36-36.9	1.075	44 and above	1.355

WEST TEXAS and NEW MEXICO

Humble Oil & Refining Co.

Effective June 3, 1931

Pecos, Winkler, Crane, Upton, Crockett, Ector, Howard and Glasscock Counties, Tex., and Lea county, N. Mex. $0.25

June 2, 1931, The Texas Co. same prices in Crane, Upton, Winkler and Lea counties as Humble.

June 3, Magnolia same prices as Humble in Winkler, Crane, Upton, Howard, Glasscock and Mitchell counties.

SOUTH and SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective June 3, 1931

Mirando $0.44
Salt Flat 0.37
Darst Creek 0.37
Pettus, Bee County 0.50

(Posted by The Texas Co.)

Effective June 2, 1931

Markham $0.37

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto, Sabine, Cotton Valley, Sarepta and Carterville.

Effective June 3, 1931

Below 29	$0.25	35-35.9	$0.32
29-29.9	0.26	36-36.9	0.33
30-30.9	0.27	37-37.9	0.34
31-31.9	0.28	38-38.9	0.35
32-32.9	0.29	39-39.9	0.36
33-33.9	0.30	40 and above	0.37
34-34.9	0.31		

Smackover, all grades $0.25
Bellevue 0.25
*Urania, La. 0.30
†East El Dorado (Calion) 0.37
*Stephens, Ark. 0.20

*Posted by Louisiana Oil Refining Corp. Stephens crude also posted by Atlantic Oil Producing Co.

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

June 2, 1931, The Texas Co. same schedule in Louisiana as Standard.

*GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective June 3, 1931

Below 25	$0.44	30-30.9	$0.50
25-25.9	0.45	31-31.9	0.51
26-26.9	0.46	32-32.9	0.52
27-27.9	0.47	33-33.9	0.53
28-28.9	0.48	34-34.9	0.54
29-29.9	0.49	35 and above	0.55

On June 2, 1931, The Texas Co. posted same prices as Humble plus these additional grades: 36-36.9, $0.56; 37-37.9, $0.57; 38-38.9, $0.58; 39-39.9, $0.59; 40 and above, $0.60.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Raccoon Bend, Refugio light, Sour Lake, Spindletop, Sugarland and West Columbia.

Goulds Pumps, Inc., Seneca Falls, N. Y. recently made the following changes in its staff:

Henry L. Boyer, appointed manager, farm-suburban sales; Henry F. Miller, manager, industrial sales; W. G. Allen, manager, engineering sales; J. B. Anderson, in charge of the department of inquiry and estimate; and G. W. Cramer, advertising manager.

In its branch offices, the company made these appointments, according to H. W. Foulds, assistant to the president and general sales manager:

Mark D. Rowe, formerly eastern manager of Servel Sales, Inc., now manager of the New York City office; J. B. Foley, formerly manager of Goulds Pittsburgh office, now manager at Chicago; and Fred Jones, formerly in the Philadelphia office, now manager at Pittsburgh.

A branch office has been opened at Dallas, in the Magnolia Bldg., with Fred Hayes as manager.

CHICAGO—North American Car Corp. reports that demand for gasoline has improved sufficiently to employ fully the company's own fleet of tank cars and that it has been necessary to charter an outside supply to meet the demand of customers.

Arthur G. McKee & Co., Cleveland, will erect a cracking unit costing $350,000 for the Kendall Refining Co., Bradford, Pa. The new unit will increase the refinery's cracking capacity 1250 barrels daily.

Union Natural To Change Name

TORONTO—The name of the Union Natural Gas Co. will be changed to the Union Gas Co., due to the acquisition some time ago of the United Fuel Investment Co., which has a large plant in Hamilton, Ont., for the production of artificial gas, coke, tar and other by-products.

SKILLED SUPERVISION

Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE—LUBRICATING OILS
NAPHTHA—GAS—OILS
WAX—PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

Gulf Refining Company

General Sales Offices:
PITTSBURGH, PA.

District Sales Offices: New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans

Plans for a Million Dollar Percolation Plant Scrapped

. . . a $75,000 contact plant built to do the same work

AND Sweetland Pressure Filters have a prominent part in the operation of this contact plant.

For lower costs, less handling and simpler operations — use Sweetland Filters and the contact process.

OLIVER UNITED FILTERS INC.

SAN FRANCISCO, Fed. Reserve Bank Bldg. NEW YORK, 33 West 42nd St.
CHICAGO, 221 N. La Salle St. LONDON, W. C. 1, 150 Southampton Row
PARIS, T. L. Genter, Concessionaire, 63 Ave. des Champs Elysees

Nebraska Wants to Hide Amount of Gas Tax

LINCOLN, Neb.—Nebraska marketers will not be permitted to indicate the amount of the state 4-cent gasoline tax in posting retail prices at the pump under a recent bill adopted by the state legislature.

The bill provides that only one price can be posted at the station. There is to be no reference to the amount of state tax, and the sign can include only the information that the price posted includes the state tax. The posted price must be the full retail price, including the amount of the tax.

The measure will be effective Aug. 3. In a recent bulletin of the Nebraska Petroleum Marketers, Secretary C. M. Sutherland publishes a sign acceptable under the law. It reads, "Regular gasoline, 16 cents per gallon, includes state tax."

Validity of the law has been questioned by an attorney for an organization in another state. The attorney doubts if the law would stand a court test, as a state's police power is limited to protect the morals, health or safety of the public. He questions whether elimination of the amount of the state tax on a gasoline pump has anything to do with the public's morals, health or safety.

The same measure also provides that all figures in a price sign must be on the same horizontal line, and that fractions must be as large as integral numbers. In the middle west retail prices vary by tenths of a cent. It is common practice to show the integral price figures in large letters, with the amount of the fraction in small letters to the right.

Prices for all grades of gasoline must be posted on the pump or at a prominent place at the station, so the attorney general of Nebraska has ruled.

The price posted for gasoline must be the actual sales price, under another ruling of the attorney general. If a station gives a discount to trucks the price for this class of customer must be posted also.

TOLEDO, Ohio—Allen D. Gutchess, president of the DeVilbiss Co., has returned from a trip to Europe. In England he conferred with DeVilbiss distributors for the United Kingdom, and with the DeVilbiss branch office in Paris. Mr. Gutchess also was in Italy.

WASHINGTON—The Federal Trade Commission has no intention of abandoning trade practice conferences, and reports to that effect are wholly propaganda, said Commissioner Humphrey in a recent statement. The commission has no intention of dropping the conferences, Mr. Humphrey said.

Crude Oil Prices (in Effect July 6, 1931)

(Prices are per barrel at the well)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

ROCKY MOUNTAIN FIELDS

(Posted by Midwest Refining Co.)

Salt Creek, below 29°	$0.25
" " 29-29.9	0.26
" " 30-30.9	0.27
" " 31-31.9	0.28
" " 32-32.9	0.29
" " 33-33.9	0.30
" " 34-34.9	0.31
" " 35-35.9	0.32
" " 36-36.9	0.33
" " 37 and above	0.34

(Posted by Ohio Oil Co. and Midwest Refining Co.)

Elk Basin (Effective June 2, 1931)	$0.62
Grass Creek light (Effective June 2, 1931)	0.62
Big Muddy (Effective June 2, 1931)	0.40
Lance Creek (Effective June 2, 1931)	0.75
Rock Creek (Effective June 2, 1931)	0.45
Mule Creek	1.20
Rex Lake	1.10
Pondera	1.45
†Cat Creek, Mont	0.60
Sunburst, Mont. (Effective June 2, 1931)	0.85
†Hogback, N. Mex.	0.65

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin. Others are prices of Ohio Oil Co.

CALIFORNIA CRUDE

††Standard Oil Co. of California
Effective June 19, 1931

	Signal Hill *Seal Beach *Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Elwood Terrace	Torrance	Richfield	†Whittier †La Habra Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	**Athens **Rosecrans **Dominguez	**Santa Paula	**Orcutt
Gravity																			
14–19.9	$0.65	$0.65	$0.65	$0.65	$0.65	....	$0.65	$0.65	$0.65	$0.65	....	$0.55	$0.55	$0.55	$0.55	$0.55	....	$0.65	$0.55
20–20.9	.65	.65	.66	.65	.66	....	.65	.65	.65	.65	....	....	.55	.55	.55	.55	....	.65	.56
21–21.9	.65	.65	.68	.66	.67	....	.65	.66	.65	.65	....	....	.55	.57	.55	.55	....	.65	.57
22–22.9	.65	.66	.70	.67	.68	F.o.b. Ship	.66	.68	.65	.65	....	....	.56	.59	.55	.55	....	.65	.59
23–23.9	.67	.68	.72	.68	.70		.67	.70	.65	.66	....	....	.58	.60	.55	.55	....	.65	.61
24–24.9	.69	.70	.74	.69	.72		.68	.72	.65	.67	$0.65	....	.61	.62	.55	.55	$0.69	.66	.63
25–25.9	.71	.72	.76	.70	.74		.70	.74	.65	.69	.65	....	.64	.64	.57	.55	.71	.68	.65
26–26.9	.73	.74	....		.76	....	....	....	....	.71	.65	....	.66	.66	....	....	.73	.70	.67
27–27.9	.75	.76	....		.78	....	....	....	....	.73	.68	....	.68	.67	....	....	.75	.72	....
28–28.9	.77	....	....		.80	....	....	....	....	.75	.71	....	.71	.69	....	....	.77	.74	....
29–29.9	.79	....	....		....	....	....	....	....	.77	.73	....	.74	.71	....	....	.79	.76	....
30–30.9	.81	....	....		....	....	....	....	....	.79	.75	....	.76	.72	....	....	.81	.78	....
31–31.9	....	....	....		....	....	....	....	....	....	.78	....	....	....	....	....	.83	....	....
32–32.9	....	....	....		....	....	....	....	....	....	.80	....	....	....	....	....	.85	....	....
33–33.9	....	....	....		....	$0.79	....	....	....	....	.83	....	....	....	....	....	.87	....	....
34–34.9	....	....	....		....	.81	....	....	....	....	.85	....	....	....	....	....	.89	....	....
35–35.9	....	....	....		....	.84	....	....	....	....	.87	....	....	....	....	....	....	....	....
36–36.9	....	....	....		....	.87	....	....	....	....	....	....	....	....	....	....	....	....	....

Subject to field gathering charge of 5c per barrel.

*Seal Beach and Alamitos Heights prices end with $0.75 for crude 27 and above.
†Whittier and La Habra crude ends with 22-22.9 gravity.
**Posted by Union Oil Co. of California, effective June 20, 1931.
††Postings on Kettleman Hills, Ventura Avenue, Athens-Rosecrans and Dominguez discontinued by Standard. Kettleman Hills, 30 and above, posted at 66 cents by Associated Oil Co. and General Petroleum Co., June 19, 1931.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	July 6	June 29
Soda Ash Light 58% bags, cwt.	$1.20-1.38	$1.20-1.38
Silicate of Soda 60 deg. drums, cwt.	$1.75-1.90	$1.75-1.90
Silicate of Soda 40 deg. tank cars, cwt.	$0.70	$0.70
Silicate of Soda 40 deg. drums, cwt.	$1.00	$1.00
Sal Soda wks.	$0.90-1.20	$0.90-1.20
Caustic Soda 76% solid, cwt.	$2.25-2.50	$2.25-2.50
Sulfuric Acid 60 deg. tank cars, f. o. b. shipping point per ton	$11.00-12.50	$11.00-12.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks., lb.	1.75	1.75

Compounders' Supplies

	July 6	June 29
Vegetable Oils		
Linseed carloads, spot, lb.	8.50	8.40
Tanks, spot	7.90	7.80
Soya Bean, Tank, coast, lb.	7.10	7.10
Oleic Acid		
Distilled, tanks, lb.	7.00	7.00
Distilled, bbls., lb.	7.875	7.375
Saponified, tanks, lb.	7.75	7.75
Saponified, bbls., lb.	8.625	8.625
Lard Oils		
Prime Winter Strained, lb.	12.50	12.50
Extra Winter Strained, lb.	8.75	8.75
Extra, lb.	8.50	8.50
Extra No. 1, lb.	7.75	7.75
No. 1, lb.	7.50	7.50
No. 2, lb.	7.25	7.25
Tallow oil, lb.	7.00	7.00
Neatsfoot Oil		
Pure, bbls., lb.	10.25	10.25
Extra, bbls., lb.	8.00	8.00
No. 1 bbls., lb.	7.75	7.75
Cold Pressed, lb.	15.00	15.00
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	38–40	38–40
Light Pressed, tank cars, N. Y., gal.	30–32	30–32
Yellow bleached, gal.	42–44	42–44
Whale, extra winter bleached, gal.	75	75
Naval Stores		
Steam distilled turpentine, N. Y., gal.	51	51
Steam, distilled turpentine, Savannah, gal.	49	49
Gum turpentine, N. Y., gal.	53	53
Gum turpentine, f.o.b. cars Savannah, gal.	46	46
Wood Rosin, N. Y., bbl.	$5.10	$5.10
Wood Rosin F, Savn'h, bbl.	$5.00	$5.00
Gum Rosin B, N. Y., bbl.	$4.80	$4.85
Gum Rosin B, f.o.b. cars Savannah, bbl.	$4.05	$4.10
Rosin oil, pure, gal.	52	52
Rosin, oil, compounded, gal.	46	46
Pin Tar		
Kiln burnt, bbl.	$10.00-11.00	$10.00-11.00
Retort, bbl.	$11.00-12.00	$11.00-12.00
Alcohol		
Denatured Formula 5, in tanks, per gal.	24	24

Ohio Defeats Chain Store Tax

COLUMBUS, Ohio—The Ohio legislature has defeated the chain store tax bill. Various oil companies fought the measure through Hubert B. Fuller, Cleveland attorney. The bill was to tax all stores $3 a year, with a graduated additional tax on chains to a top of $25 a year for all stores over 20.

Late Market Changes

NEW YORK—On July 7 Standard Oil Co. of New Jersey reduced tank wagon and service station prices of gasoline 1 cent generally through its territory, except tank wagon unchanged in New Jersey and dealer discount in that state raised to 3 cents. It had formerly been 2 cents.

Last previous general change was a ½ cent cut May 6.

Crude Price Changes

HOUSTON—On July 3 Sinclair Oil & Gas Co. withdrew its postings on East Texas crude. Gulf Pipe Line Co. withdrew July 6. On June 2 Humble Oil & Refining Co., The Texas Co. and Stanolind Crude Oil Purchasing Co. had withdrawn from East Texas.

Notice of these withdrawals arrived too late to correct the crude oil price table on page 95 of this issue.

OIL STOCKS AND FINANCES

Vacuum Stockholders Are Given New Socony Merger Basis

CLEVELAND, July 6

NEW terms for the consolidation of the Standard Oil Co. of New York and the Vacuum Oil Co. will be submitted to Vacuum Oil stockholders at a special meeting July 30 in New York. The new terms are two and a half shares of Socony-Vacuum Corp. for one of Vacuum, intead of three shares of holding company stock, as planned in the original merger contract announced in February, 1930.

The Socony-Vacuum Corp. is the name to be taken by the present Standard Oil Co. of New York. This corporation will take over all assets of the Standard of New York by exchanging its stock share for share for the present Standard of New York stock.

Two operating subsidiaries are to be organized under the revised plan. One will be styled Standard Oil Co. of New York, Inc., and with it will be placed the present Standard of New York properties. The other will be the Vacuum Oil Co., Inc., and it will operate the present Vacuum properties.

Under the original plan for the merger the parent holding company was to have been styled the General Petroleum Corp., a name that is borne by the New York company's California subsidiary. The new name of Socony-Vacuum, it is said, was adopted to avoid confusion with the California company and to tie in more closely with the established trade names of the main components of the consolidated company.

The change in terms was brought about by a change in the relative situations of the two companies since the merger was proposed in February, 1930. At that time Vacuum stock was selling for approximately three times the price of Standard of New York stock. While the government was contesting the proposed merger, market prices of all oil stocks fell and Vacuum fell relatively more than Standard.

Vacuum and Standard of New York will have equal representation on the board of directors of the Socony-Vacuum Corp., Herbert Baker, chairman of the board of Vacuum, informed stockholders July 3. The management of each component company will remain as at present, he said.

Mr. Baker recited the advantages of a consolidation, which were first stated in the company's announcement last year. These in substance are:

The business of the companies are complementary, Standard being engaged primarily in crude oil production, and the refining and marketing of kerosine and gasoline, and Vacuum being engaged primarily in the manufacture and marketing of lubricating specialties. The bulk of the Standard's business is in the United States and that of the Vacuum in foreign countries.

Foreign distribution of the goods of the two companies can be accomplished more economically and strong foreign competition can be met on a better basis.

In the United States Vacuum will be in position to meet the competition of integrated companies that do a general business in petroleum products, by having available to it the crude supply of Standard subsidiaries, and additional refining and marketing facilities.

Mid-Continent Petroleum Earnings Fall

CLEVELAND, July 3.—Mid-Continent Petroleum Corp. reports net loss of $828,623 for the first quarter of 1931 after all charges. The first quarter of 1930 the company netted $1,013,279, or 54 cents a share on 1,857,912 outstanding shares. Current assets as of May 31, 1931, were approximately $16,450,000 after giving effect to inventory valuation reductions. Current liabilities were approximately $1,796,000. The company's cash amounted to $7,558,025.

Omits Dividends on Common

NEW YORK, July 3.—Tide Water Associated Oil Co. has omitted the semi-annual dividend of 20 cents a share on its common stock ordinarily paid at this time.

Mexican Eagle Maintains Dividends

NEW YORK, July 3.—Mexican Eagle Oil Co. has declared dividends of 11.94 cents on its ordinary shares and 15.92 cents on participating preference shares, both payable July 14. Monetary figures are in U. S. currency. The dividends are the same as those paid last year. Canadian Eagle Oil Co. paid declared dividends of 12 cents on ordinary shares and 23.88 on participating preference shares June 29. Both companies are parts of the Royal Dutch-Shell group.

Associated Oil & Gas Elects

TORONTO, July 3.—F. J. Green, Calgary, has been elected president of Associated Oil & Gas Co., Ltd., which operates in the Turner valley field of Alberta. George M. Bell, Calgary, has been elected vice-president, and W. M. Connacher, also of Calgary, secretary and treasurer. Directors elected are: F. Montagu, Winnipeg; Major James R. Lowery, Vancouver, and A. E. Freeman, Calgary.

Superior Oil Reports Loss

CLEVELAND, July 3. — Superior Oil Corp. reports a loss of $577,622 the first quarter after all charges and a loss on the sale of capital assets. The company showed net operating income of $160,583 before reserves, loss on sale of capital assets, and adjustments.

Wadhams Acquires Barkhausen

CHICAGO, July 3.—Wadhams Oil Co. of Milwaukee, subsidiary of Vacuum Oil Co., has acquired the Barkhausen Oil Co. of Green Bay, Wis. H. A. Barkhausen, it was announced, will continue as president of the company that bears his name. The Barkhausen company has more than 100 outlets.

New Agency Commission Is Sliding Scale

LOUISVILLE, Ky., July 3.—Standard Oil Co. of Kentucky and other large marketers in Kentucky have put into effect a sliding scale of commissions on gasoline sales to agency agreement outlets.

The scale is based on the relationship of posted tank wagon prices to posted service station prices. Third grade of gasoline is not included in the scale which follows:

Three cents a gallon on all sales at company's posted service station retail prices when these posted prices are 2 cents or more a gallon above the company's posted tank wagon prices.

Two and one half cents a gallon on all sales made at company's posted service station retail prices when these prices are 1 cent a gallon above the company's posted tank wagon prices.

One and one half cents a gallon on all sales made at company's posted service station retail prices when these prices are equal to or below the company's posted tank wagon prices.

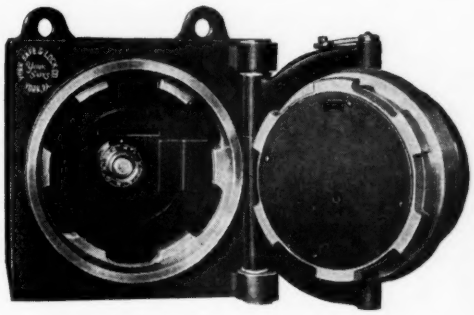
One cent a gallon on all sales to commercial customers that are charged and who have been listed in writing for the agent by the company.

These allowances are in addition to the usual rental allowance.

The usual arrangements covering motor oils and greases are included in the new agreements.

PROTECTION FROM HOLD-UPS AS WELL AS BURGLARS

THE York Round Door Chest is not only thoroughly burglar proof. When desired, it may also be provided with an ingenious additional protection against the activities of bandits and hold-up men—the "Hold-up Partition". As a surplus of money is accumulated over the average amount for making change, it is slipped into the interior through the slot shown in the illustration. The operation of the inner door, however, is in the hands of an executive or trusted employe who collects the money at suitable intervals. The "Hold-up Partition" thus offers a disconcerting obstruction to bandits who attempt raids during business hours.



The York Chest, when installed, is anchored in a solid concrete block, giving complete protection against fire. It cannot be removed from the building or attacked at any point except the heavy, thief-proof door. The saving in burglary insurance alone will pay for the York Chest in a reasonable length of time.

Illustrated folder describing the York Round Door Chest in detail will be sent gladly on request. Write for it today.

York Safes

YORK SAFE & LOCK CO.

York, Pennsylvania

EN-AR-CO
MOTOR OIL
WHITE ROSE
GASOLINE
WHITE ROSE
ETHYL
ROYAL
GASOLINE
EN-AR-CO
GEAR LUBRICANT

The National Refining Co.
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HIGH GRADE PETROLEUM PRODUCTS

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CYLINDER STOCKS, (Filtered and Unfiltered).
MOTOR OILS—to match any specification.
High Grade Burning Oils.
300° Mineral Seal and Railroad Oils.
High Grade Transformer Oils.

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PITTSBURGH, PA.

OIL PRICE HANDBOOKS

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NATIONAL PETROLEUM NEWS
700 Penton Bldg.
Cleveland, Ohio

Transactions in Oil Shares on New York Stock Exchange

1930 High	1930 Low	1931 High	1931 Low	Listed Shares	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended July 3 Sales Shares	High	Low	Last	Week's Change
31½	16½	23	15½	922,075	N.P.	Amerada Corp.	50cQ	Apr. 30, 31	2,400	20¾	17	20¾	+ 3¼
37	5⅛	12⅜	5	209,180	N.P.	American Republics Corp.	....	.....	800	7¾	6½	7½	+ ⅛
51	30	31	20	2,240,000	$25	Associated Oil Co.	25cQ	June 30, 31	.....	....	....	....	....
51⅜	16⅝	23⅝	11¼	2,691,764	25	Atlantic Refining Co.	25cQ	June 15, 31	11,500	17	15⅛	16½	— ⅝
34	8⅝	14½	5¾	2,257,678	25	Barnsdall Corp. A	25cQ	Mar. 16, 31	10,100	9	8¼	9	0
35	21	25	25	2,060,966	25	California Petroleum Corp.	....	Jan. 1, 29	.....	....	....	....	....
20⅝	8¾	10¼	7½	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	200	8¼	7½	8¼	+ ⅜
30½	7¾	12	5	4,712,745	N.P.	Continental Oil Co. (Del.)	....	.....	28,100	9⅜	8⅜	9	— ⅜
71⅛	22⅜	47	15¼	413,333	N.P.	General Asphalt Co.	75cQ	June 15, 31	12,700	26⅝	23¼	25¼	— 1
116⅞	29¼	68½	27	97,071	$100	Houston Oil Co.	....	.....	16,900	48	43	46¾	+ ¼
11¾	6⅝	14⅛	6	673,414	25	do new	....	.....	19,200	10⅜	9⅜	10⅜	+ ⅛
28⅜	3	4⅝	2	556,356	10	Indian Refining Co.	....	Dec. 15, 20	500	2¾	2½	2½	0
12	3½	4½	2	1,309,003	N.P.	Louisiana Oil Ref'g. Corp.	....	.....	200	3⅛	3	3	— ⅛
90	66	55	35	40,000	$100	do pfd.	$1.62½Q	May 15, 31	10	35	35	35	0
10⅜	1¾	3¾	1	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	300	2	2	2	0
182	150	171	150	459,428	$100	Mexican Petroleum Co.	....	Apr. 20, 31	.....	....	....	....	....
100	100	100	100	120,000	100	do pfd.	$2Q	Apr. 20, 31	10	100	100	100	+ 4
37	9¾	20¾	10⅝	1,244,383	N.P.	Mexican Seaboard Oil Corp.	....	Oct. 15, 24	29,600	17	15	16¼	— ¼
33	11	16¾	5¾	1,857,912	N.P.	Mid-Continent Petroleum Corp.	....	Feb. 16, 31	6,200	10¼	9¼	9⅞	— ⅛
32	16	19½	7	6,648,052	N.P.	Ohio Oil Co.	....	Mar. 14, 31	16,000	11⅜	10¼	11¼	0
64¼	42	35⅛	25	1,000,000	$50	Pan Amer. Pet. & Trans. Co.	....	Oct. 20, 27	.....	....	....	....	....
67½	30	36½	24	2,473,577	50	do B non-voting	....	Oct. 20, 27	.....	....	....	....	....
12¾	1¾	4¼	1½	199,370	N.P.	Panhandle Prod. & Refg. Co.	....	.....	800	2⅛	1⅞	2	0
80	47½	20	10	25,666	$100	do pfd.	....	July 2, 23	80	10¼	10¼	10¼	0
27¼	5⅞	10⅞	6	3,726,084	N.P.	Petroleum Corp. of America	25cQ	June 1, 31	2,800	7¾	7¼	7⅝	— ⅛
44¾	11½	16⅝	4¾	4,416,251	N.P.	Phillips Petroleum Co.	....	Jan. 2, 31	13,100	9	8½	8¾	— ¼
2½	½	1½	½	1,184,917	$25	Pierce Oil Corp.	....	.....	500	¾	¾	¾	0
52	7½	23¾	6½	150,000	100	do pfd.	....	Feb. 1, 22	300	12½	12	12½	+ ½
7⅛	1⅜	3⅜	1	2,500,000	N.P.	Pierce Petroleum Corp.	10c	Feb. 16, 31	8,700	2¼	2	2¼	+ ⅜
54	11¼	20⅜	6½	2,441,432	$25	Prairie Oil & Gas Co.	....	Mar. 31, 31	2,000	10½	10	10¼	— ¼
60	16⅜	26½	14⅜	4,050,000	25	Prairie Pipe Line Co.	75cQ	July 1, 31	11,600	20	17⅜	18⅜	— 1⅝
11⅞	1	6	1⅞	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 23	500	3¼	3⅛	3¼	+ ¼
40	11½	16	6½	56,907	50	do pfd.	....	May 4, 25	.....	....	....	....	....
27¼	7⅜	11⅞	5½	3,038,370	25	Pure Oil Co.	....	Sept. 1, 30	5,100	8½	7¾	8⅛	— ⅜
114¼	90½	101⅞	66⅝	130,000	100	do 8% pfd.	$2Q	July 1, 31	100	77	75	77	+ 1½
28¼	4⅜	6⅜	1	2,126,250	N.P.	Richfield Oil Co. (California)	....	Sept. 1, 30	5,300	2	1⅞	1¾	— ⅛
25⅜	5	10¼	3⅛	1,235,542	N.P.	Rio Grande Oil Co.	....	July 25, 30	3,400	4⅞	4⅜	4½	— ⅜
56½	36⅞	42⅝	24⅞	681,728	$13.40	Royal Dutch Co. (N. Y. Shares)	$1.3404	Jan. 31, 31	9,400	33¾	31⅛	33¾	+ ⅝
48⅜	26	34	24⅜	68,810	L2	Shell Transp. & Trading Co.	96.6c	Jan. 23, 31	.....	....	....	....	....
25½	5¼	10¼	4½	13,070,625	N.P.	Shell Union Oil Corp.	....	June 30, 30	20,100	7⅞	6¾	7⅞	— ⅛
106¼	55	78	25½	400,000	$100	do pfd.	$1.37½Q	July 1, 31	2,100	55½	49¼	55	+ 7
37	5⅝	11	5	869,271	10	Simms Petroleum Co.	....	Sept. 15, 30	1,300	8¼	7	8	— ⅛
32	9¾	15⅞	6¼	6,148,294	N.P.	Sinclair Cons. Oil Corp.	....	Apr. 15, 31	84,600	11⅝	9¾	11½	+ 1
112¼	86	103	77	141,294	$100	do pfd.	$2Q	May 15, 31	.....	....	....	....	....
42	10⅛	12⅞	3⅛	1,000,069	25	Skelly Oil Co.	....	Dec. 15, 30	1,400	6	5½	5½	— ½
99¾	42	62	10	120,000	100	do pfd.	$1.50Q	May 1, 31	.....	....	....	....	....
106⅜	98	105¼	99⅞	764,836	100	S. O. Export Corp. pfd.	$2.50 S.A.	June 30, 31	200	102½	102½	102½	+ ½
75	42¼	51¾	31⅛	13,102,900	N.P.	S. O. California	62½cQ	June 15, 31	25,500	39½	37⅛	38½	— ¾
49	14⅜	19	8¾	320,000	$25	S. O. Kansas	....	Mar. 16, 31	300	13½	12½	12⅝	— 1
84⅞	43½	52½	30⅜	25,548,466	25	S. O. New Jersey	††25cQ	June 15, 31	91,100	40⅞	38⅛	39½	— 1⅜
46⅜	19¾	26	13⅞	17,849,353	25	S. O. New York	40cQ	June 15, 31	50,500	18½	17½	17⅝	— ⅝
70	39	45¼	31	1,544,275	N.P.	Sun Oil Co.	25cQ	June 15, 31	100	36	36	36	+ 1
108½	97¾	104½	94	100,000	$100	do pfd.	$1.50Q	June 1, 31	70	101¾	101½	101½	+ ½
9⅜	¾	1¾	¾	776,979	N.P.	Superior Oil Corp.	....	.....	700	⅞	¾	⅞	+ ⅛
60½	28¼	36¼	18	9,851,163	$25	The Texas Corp.	50cQ	July 1, 31	27,100	24⅜	22⅞	24	+ ⅜
14½	4	6½	2½	930,404	10	Texas Pacific Coal & Oil Co.	....	Dec. 31, 29	500	4⅛	3¾	4⅛	+ ½
17¾	5⅞	9	4	5,996,965	N.P.	Tide Water Associated Oil Co.	30cS.A.	Feb. 16, 31	5,900	6⅜	5⅜	5⅜	— 1
89¾	53	68	38	732,644	$100	do pfd.	$1.50Q	July 1, 31	1,500	48	44½	48	+ 4
31	12	18	10½	2,191,820	N.P.	Tide Water Oil Co.	15cQ	June 30, 31	.....	....	....	....	....
94⅞	68	83	54	199,446	$100	do pfd.	$1.25Q	May 15, 31	.....	....	....	....	....
50	20⅛	26⅜	14	2,325,006	25	Union Oil Co. of California	50cQ	May 9, 31	4,200	19	18	18¾	— ½
38½	23	25⅜	20	1,254,048	N.P.	Union Tank Car Co.	40cQ	June 1, 31	400	21⅞	21½	21½	— 1½
27	4¼	7⅜	1⅝	769,531	N.P.	Warner Quinlan Co.	....	July 3, 30	600	3⅝	3	3	— ½
21	6½	9⅜	3½	428,967	N.P.	H. F. Wilcox Oil & Gas Co.	....	May 10, 28	900	6	5½	6	+ ¼

*New high †New low ††Also extra—S. O. New Jersey 25c. Total sales 537,470.

New York Bonds

Week Ending July 3

	High	Low	Last	Change
Asso. Oil gold 6s	102½	102½	102½	+ ½
Atlantic Refg. deb. 5s	101⅞	101½	101½	0
Cal. Pet. 5s	85	84¼	85	0
Cal. Pet. 5½s	90½	89¾	90	— ½
General Pet. 5s	103	102⅝	103	+ ¼
Humble Oil & Refg. 5s	101⅝	101	101⅝	+ ⅝
Humble Oil & Refg. 5½s	103½	102¼	102⅜	+ ⅛
Pan Amer. P & T 6s	36	33	35	+1
Pan Amer. P & T 6s cvt.	101¾	101½	101⅝	— ⅛
Phillips Pet. 5½s	65½	62¾	63	—2¼
Pure Oil 5½s	85½	84	84	—1
Shell Union Oil 5s	80	77½	79	0
Sinclair Con. Oil 7s	97¾	96	97½	+2⅜
Sinclair Con. Oil 6½s	94⅛	92½	94	+1¾
Sinclair Con. Crude 5½s	102½	102	102½	+ ½
Sinclair Pipeline	101¼	100½	101¼	+ ¾
Skelly Oil 5½s	57	53	57	+2
S. O. N. Y. 4½s	99⅜	98⅝	99⅛	+ ⅝
Union Oil of Calif. 5s C.	99½	99½	99½	+ ¾
White Eagle Oil 5½s	102½	102½	102½	0

New York Curb Bonds

Transactions Week Ending July 3

	High	Low	Last	Change
Cities Service 5s '55	67½	66½	66⅝	—1⅜
Cont. Oil 5½s '37	85⅜	84	84	—4
Empire O & R 5½s '42	62¼	60¾	60¾	— ¼
Gulf Oil 5s '37	102	101	102	+ ½
Gulf Oil 5s '47	102	101	101	+ ⅝
Indep. Oil 6s '39	80	79½	79½	— ½
Sun Oil 5½s '39	101	100¼	101	+ ¾

Luncheon Marks Opening Of «Gas» Pipeline

CLEVELAND, July 3.—Officials of the Sun Oil Co. were guests at a luncheon of the industrial development committee of the Chamber of Commerce June 30 in recognition of the completion of Sun's gasoline pipeline from near Philadelphia to the Great Lakes at Cleveland.

J. N. Pew, Jr., and S. B. Eckert, vice-presidents, Philadelphia; P. H. Harrison, regional manager, Detroit; and W. Wishar, Cleveland manager, were the executives representing the Sun Oil Co. About 25 local business men attended.

A week is required to move a given gallon of gasoline from Philadelphia to Cleveland, Mr. Pew said. The line has five stations with centrifugal pumps to force the gasoline. Gasoline is delivered to Cleveland at the rate of 630,000 gallons in 24 hours to the company's 3,000,000-gallon storage plant which has rail and water connections.

Pittsburgh Stock Exchange

Transactions Week Ended July 3, 1931

	Sales	High	Low	Last	Change Over Week
Arkansas Nat. Gas	1,165	4⅜	4¼	4¼	0
Devonian Oil	50	5	5	5	0
Leonard Oil & Dev.	1,500	.75	.65	.75	+c.15
Lone Star Gas	5,920	18⅞	17½	18	— ⅞
do pfd.	10	101	101	101	0
Phoenix Oil	1,000	.15	.15	.15	0
Plymouth Oil	150	12	10½	10½	—1
West. Pub. Serv.	2,210	9½	8⅞	9	— ½
Pittsburgh Curb					
Gulf Oil Corp. of Pa.	500	61	61	61	0

N.P.N. Service Record

This publication cannot undertake to make extensive compilations of oil market prices over a past period due to the amount of work involved.

Records of all prices quoted in NATIONAL PETROLEUM NEWS *are kept at all its branch offices where they may be referred to by readers. Or, oil prices are available through purchase of an OIL PRICE HANDBOOK, published annually by* NATIONAL PETROLEUM NEWS.

Some of the requests for information, data and advice which were taken care of in various National Petroleum News offices in the past week are:

Ohio automotive paper furnished gasoline consumption figures for the first three months of 1931 and 1930, and given estimate of motor oil sales percentage to that of gasoline.

* * *

Vice president of large southwestern refiner furnished statistics as to amount of lime, soda ash and caustic soda used by refineries during 1930.

* * *

Albany, N. Y. garage owner told how to bring used crankcase oil to its original color.

* * *

Superintendent for Illinois producer referred to two leading testing laboratories that can test anti-knock qualities of casinghead gasoline.

* * *

Illinois mail order house told how to obtain gasoline specifications for gas making machine.

* * *

Pennsylvania motor oil refiner referred to N.P.N. article indicating how one oil jobber keeps up its records on loaned equipment.

* * *

Pennsylvania inquirer furnished names and addresses of eight pipeline contractors and referred to several sources for a complete list.

* * *

South Carolina oil jobber referred to government specifications on lubricating oil as the best available set of general specifications, being told that there is no such thing as an accepted specification for lube oils due to multiplicity of conditions under which oils are used. Also told of temperature of automotive engines in operation and referred to authority on this subject; also furnished list of N.P.N. articles on greasing, merchandising and one-stops.

* * *

President of Colorado oil jobbing company furnished all articles published in N.P.N. on octane rating of motor fuels.

* * *

Sales division of large New York advertising agency furnished estimate of average per passenger car, bus and truck consumption of gasoline a year.

* * *

Montana inquirer furnished name and address of manufacturer of elevator type garage.

* * *

Minnesota oil and grease marketer furnished names and addresses of eight manufacturers of castor oil and told where he may purchase alcohol.

* * *

New Jersey oil distributor given information on compound supposedly to compete with Ethyl gasoline; also about another compound claimed to impart anti-knock property to gasoline, recently put out by middlewest corporation.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

OIL SALESMAN OR AGENCY—Twenty years experience marketing petroleum products, industrial as well as automotive. Familiar with all southern territory. Desire connection with growing concern. Address Box 752.

CHEMICAL ENGINEER M. S degree (M I T), six years petroleum refining experience, plan and laboratory. Fully capable of assuming charge of refinery laboratory. Address Box 755.

WANT CONNECTION WITH REFINERS on commission or brokerage basis to handle tank car shipments for New Mexico, Colorado, Utah, Wyoming, Nebraska. Also interested in Pennsylvania oils and Mid-Continent oils. Address Box 756.

Situations Open

SALES REPRESENTATIVE WANTED
For Water Treating Equipment in Oklahoma, Texas and Kansas. Nationally known company.

Address Box 749

DESIGNING ENGINEER wanted by engineering and contracting firm, capable of designing and estimating atmospheric and vacuum pipe still distillation units, lubricating plants, treating plants, and general refinery construction. Write fully giving training, experience, former employers and salary expected first letter. Location middle West. Address Box 754.

SALES REPRESENTATIVE WANTED
For Tank and Steel Plate Construction in Oklahoma, Texas and Kansas. Nationally known company.

Address Box 750

SALES MANAGER WANTED

Old line established refining company three refineries capacity twenty thousand barrels daily requires services of sales-manager to handle fuel oil and gas oil production. Only highest type man presently or recently employed with established record of accomplishments who can produce immediate business in large volume need apply. Write P. O. Box No. 1929, Tulsa, Okla., giving full details and personal interview will be arranged if thought desirable.

Business Opportunity

A WELL ESTABLISHED DISTRIBUTING house, lubricating oils, main location Capitol District New York State,, wants additional lines of unquestionable merit and volume for distribution to oil trade and industrial plants. Territory Capitol District New York State, Vermont and New Hampshire.

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Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

Standard Oil Stocks on New York Curb Market

1930 High	1930 Low	1931 High	1931 Low	Shares Issued	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended July 3 Sales Shares	High	Low	Last	Week's Change
25	11¼	12⅞	6¼	40,000	$25	Borne Scrymser Co.	....	Oct. 15, 30	....	....	....	....	....
69	39⅞	51	40	200,000	50	Buckeye Pipe Line Co.	$1Q	June 15, 31	100	42¼	42¼	42¼	— 2¾
184⅞	100¼	129½	101	120,000	25	Chesebrough Mfg. Co.	††$1Q	June 30, 31	100	120	120	120	— 2
7⅝	3	3½	2	5,977,873	N.P.	Creole Petroleum Co.	....	....	1,200	3¼	2⅞	3¼	+ ¼
65¾	20¼	30	20⅝	30,000	50	Cumberland Pipe Line Co.	50cQ	June 15, 31	....	....	....	....	....
54¾	26	31	24	50,000	100	Eureka Pipe Line Co.	$1Q	May 1, 31	....	....	....	....	....
6¾	2½	2⅞	1	280,000	N.P.	Galena Oil Corp.	....	....	....	....	....	....	....
119	57¼	72	49⅞	2,974,645	$25	Humble Oil & Ref'g. Co.	50cQ	July 1, 31	5,400	69½	63⅝	66	+ ½
30	15	18½	9⅞	26,557,496	N.P.	Imperial Oil Corp.	12½cQ	June 1, 31	1,800	13⅜	12⅝	13	— 1
28	15	18	10	....	N.P.	do registered	12½cQ	June 1, 31	....	....	....	....	....
41	14½	21⅛	9⅛	300,000	$10	Indiana Pipe Line Co.	25cQ	May 16, 31	700	12	11⅞	12	+ ½
24	11⅜	15½	8¾	14,247,088	N.P.	International Petroleum Co.	25cQ	June 15, 31	18,250	12½	11¾	12¼	0
22⅜	11½	17½	11¼	509,000	$12.50	National Transit Co.	25cQ	June 15, 31	300	13¾	12¾	12¾	— 1
21	10⅜	14½	7½	100,000	10	New York Transit Co.	††15cQ	July 15, 31	100	7½	7½	7½	— 1¼
54	26¼	30	27	40,000	50	Northern Pipe Line Co.	††$1.50Q	July 1, 31	....	....	....	....	....
108	100⅜	102⅞	80	579,465	100	Ohio Oil Co. pfd.	$1.50Q	June 15, 31	100	86	86	86	0
32	12	15½	8	400,000	25	Penn Mex. Fuel Co.	75c	June 24, 31	....	....	....	....	....
....	....	18¼	17¼	....	....	Socony-Vacuum Corp. w.i.	....	....	2,200	18¼	17¼	17⅞	0
33	4⅞	8	3¼	160,000	25	Solar Refining Co.	....	Dec. 20, 29	400	6	5⅞	6	+ 1½
20⅜	6¾	17	10	100,000	10	Southern Pipe Line Co.	50cQ	June 1, 31	100	11	11	11	— ⅛
45⅞	18	23⅞	12¾	1,200,000	25	South Penn Oil Co.	25cQ	June 30, 31	600	15¼	14½	14⅞	— ⅛
64	32	38	31¼	35,000	50	Southwest Pa. Pipe Lines	$1Q	July 1, 31	50	31¼	31¼	31¼	— 3¾
59⅞	30	38½	19⅜	16,850,587	25	S. O. Indiana	50cQ	June 15, 31	18,800	28	26¾	28	0
40½	18⅞	23⅝	15⅝	2,588,735	25	S. O. Kentucky	40cQ	June 30, 31	600	19⅜	18½	18½	— ½
48⅞	34	36½	19¼	190,822	25	S. O. Nebraska	50cQ	June 20, 31	100	25¼	25¼	25¼	— 1¾
108½	43¼	62½	35	766,667	25	S. O. Ohio	62½cQ	July 1, 31	1,200	43½	43	43½	0
....	....	115¼	101¼	120,000	100	do 5% pfd.	$1.25Q	July 15, 31	40	102	101¼	102	0
10	4	10	2¾	34,158	25	Swan Finch Oil Corp.	....	Jan. 15, 29	....	....	....	....	....
97⅞	45⅜	69¾	22⅛	5,624,158	25	Vacuum Oil Co.	50cQ	June 20, 31	15,700	44¾	42⅛	43	— 1⅞

*New high †New low ††Also extra—Chesebrough 50c; N. Y. Transit 10c; Northern P. L. 50c.

Oil and Royalty Stocks on New York Curb

1930 High	1930 Low	1931 High	1931 Low	Par Value		Transactions Sales Shares	Week Ended July 3 High	Low	Last	Week's Change
4½	½	1¾	½	N.P.	American Maracaibo	1,000	1	¾	¾	— ¼
16¾	4⅝	6½	3⅛	N.P.	Arkansas Nat. Gas	1,600	4⅛	4	4	— ⅛
16⅝	4⅝	6¾	3	N.P.	do A	11,400	4¼	3⅞	4⅛	0
8⅛	6¼	7	5⅛	$10	do pfd	....	....	....	....	....
1	¼	1	⅛	N.P.	Atlantic Lobos	....	....	....	....	....
1½	⅛	3¼	1	$50	do pfd	....	....	....	....	....
21	13⅜	16⅞	8½	N.P.	British American coup.	....	....	....	....	....
....	....	10¼	10	N.P.	do registered	....	....	....	....	....
2¾	⅝	2⅜	½	$1¼	Carib Syndicate	4,500	1½	1⅜	1⅜	0
44¼	13⅛	20¾	9¾	N.P.	Cities Service	75,100	13⅛	11⅞	12¾	— ½
93⅞	78¼	84¾	61¼	$100	do pfd	700	67⅜	67⅛	67¼	+ ¼
9	7¼	7½	5⅛	10	do pref. B	....	....	....	....	....
89⅞	80	78½	59½	100	do pref. BB	100	78½	74	74	+ 4
8¼	1⅛	3⅛	¾	N.P.	Colon Oil Corp.	2,000	1⅞	1¾	1¾	— ⅛
21	3⅜	7⅛	2	N.P.	Col. Oil & Gas. vtc.	1,800	3⅞	3⅜	3⅝	— ⅜
5⅞	2	2¾	1½	$1	Consolidated Royalty	100	1½	1½	1½	0
74¾	1¼	3¾	1	N.P.	Cosden Oil	200	1⅜	1⅛	1⅛	— ⅛
70	10¼	15	1	$100	do pfd	100	1	1	1	— 6½
1	¼	⅝	¼	N.P.	Crown Central Petrol.	....	....	....	....	....
21¾	2½	5	2	N.P.	Darby Petroleum	100	3½	3½	3½	+ ¾
11	2	6	2½	N.P.	Derby Oil & Refining	100	3¼	3¼	3¼	— ¼
60	30	40⅛	26	N.P.	do pfd	....	....	....	....	....
106⅞	58½	76	38	$25	Gulf Oil Corp.	8,800	64	56½	60	— 1⅛
40¾	36	9¾	9¾	....	Honolulu Oil Corp.	....	....	....	....	....
47½	12⅝	16⅞	10	N.P.	Indian Ter. Ill'g. Oil A	1,800	10½	10½	10½	+ ⅛
53½	12⅝	16⅞	9⅞	N.P.	do B	100	10¼	10¼	10¼	0
1¾	⅜	⅝	¼	$5	Intercontinental Petrol.	28,500	1/16	⅜	⅜	+ 1/16
3	⅞	1⅞	½	N.P.	Kirby Petroleum	400	1	⅞	⅞	+ ⅛
4¾	½	1½	½	$25	Leonard Oil Devel.	2,300	¾	⅝	⅝	— ⅛
29	4⅞	6¾	3½	N.P.	Lion Oil Refining	....	....	....	....	....
55⅞	19⅜	29	14⅜	N.P.	Lone Star Gas	1,700	18½	17¼	18	— ¾
31	5½	....	....	$25	MacMillan Petroleum	....	....	....	....	....
½	⅛	½	⅛	$1	Magdalena Syndicate	500	¼	1/16	¼	0
16	3	5	3½	N.P.	Margay Oil Co.	100	4	4	4	0
7½	1¾	4⅞	1½	N.P.	Mexico-Ohio Oil	....	....	....	....	....
....	....	8⅞	2	N.P.	Michigan Gas & Oil	....	....	....	....	....
11⅞	2¼	4⅝	2¼	N.P.	Mid. States Pet. A vtc.	300	2⅞	2¾	2⅞	0
6	⅝	1½	¾	N.P.	do B vtc.	400	1	⅞	⅞	+ ⅛
36½	5	11	3⅞	$5	Missouri-Kansas P.L.	4,100	5⅜	5⅛	5⅜	+ ⅛
6	⅜	⅝	¼	1	do B vtc.	700	⅜	1/16	⅜	+ 1/16
¾	⅜	½	¼	1	Mountain & Gulf	....	....	....	....	....
12½	3¾	5⅞	3½	10	Mountain Producers	300	4	3¾	4	+ ⅜
41⅜	19⅞	26½	16⅞	N.P.	National Fuel Gas	200	19¾	18¾	19¾	+ ¼
3½	1⅛	1½	½	$5	New Bradford Oil	....	....	....	....	....
3⅛	2⅛	2⅛	2	10	New England Fuel	....	....	....	....	....
16⅞	4	....	....	25	N. Y. Pet. Royalty	....	....	....	....	....
....	....	6½	6½	10	N. American Oil	....	....	....	....	....
11¼	2⅛	3¼	1⅛	N.P.	North Central Texas	....	....	....	....	....
4⅛	⅝	2½	⅜	N.P.	North European Oil	2,600	1¼	⅞	1⅛	0
11⅝	3⅛	5	1	N.P.	Oilstocks Ltd. A	....	....	....	....	....
11½	4½	5	2½	N.P.	do B	....	....	....	....	....
19½	5½	15	5	N.P.	Pacific Western Oil	100	6	6	6	— ½
2½	¼	¾	⅛	N.P.	Pandem Oil	3,100	¼	⅛	⅛	— 1/16
4⅜	1	2	⅜	N.P.	Pantepec of Venezuela	2,500	1⅜	⅞	⅞	— 1/16
5⅞	½	1⅜	¼	....	Petroleum Corp. war.	300	½	½	½	+ ¼
27½	16¼	19	6⅝	$5	Plymouth Oil	1,800	12½	10¼	10½	— 2½
8	3⅛	4½	1	N.P.	Producers Royalty	....	....	....	....	....
99	81¾	83½	15¾	$100	Pure Oil 6% pfd.	....	....	....	....	....
10½	1½	2½	1¾	N.P.	Red Bank Oil	....	....	....	....	....
5⅜	⅝	1½	½	N.P.	Reiter-Foster Oil	1,800	1⅝	1⅜	1⅝	+ ½
23½	6½	11	1¾	$25	Richfield Oil pfd.	100	2¼	2¼	2¼	+ ¼
25	2¼	3½	1¾	N.P.	Root Refining pfd.	....	....	....	....	....
12⅞	5½	3¾	1½	$10	Roy. Corp. of Amer. pfd	....	....	....	....	....
8⅝	2	2⅞	1¼	N.P.	Ryan Consolidated	1,700	2½	1⅞	2½	+ ⅜
2½	½	1⅜	⅞	$10	Salt Creek Consol.	....	....	....	....	....
15¼	5¼	7⅝	4	10	Salt Creek Producers	400	5½	5	5¼	+ ⅛
8	1¾	4	2	25	Shreve. El Dorado P.L.	....	....	....	....	....
17	6	7½	3¾	N.P.	Southland Royalty	200	4¼	4¼	4¼	— ⅝
10	2	5¼	1	$5	Sunray Oil	....	....	....	....	....
19½	8	12⅞	7½	N.P.	Texon Oil & Land	200	8	7⅝	7⅝	— ½
47½	19	24½	13½	$25	Union Oil Associates	300	17	16½	16½	— 1¼
4½	⅝	1⅞	⅝	5	Venezuela Petroleum	1,000	⅞	¾	⅞	0
5	2	3½	1½	1	Woodley Petroleum	....	....	....	....	....
2½	⅜	1¼	¼	N.P.	Y Oil & Gas	6,700	1¾	1½	1¾	+ 1⅜

*New high. †New low.

Dividends

Declared Last Week

Company and period	Amount	Stock of Record Payable	Stock of Record
Eureka Pipe Line q	$1	Aug. 1	July 15
Indiana Pipe Line q	25c	Aug. 15	July 24

Awaiting Payment

Company and period	Amount	Stock of Record Payable	Stock of Record
Cities Service Co.	2½c	Aug. 1	July 15
do stock m	½%	Aug. 1	July 15
do pfd m	50c	Aug. 1	July 15
do pref. B	5c	Aug. 1	July 15
McColl Frontenac pfd. q	1½%	July 15	June 30
Mexican Pet. pfd. q	$2	July 20	June 30
New York Transit q	15c	July 15	June 26
do extra	10c	July 15	June 26
Pan Amer. Pet. q	40c	July 20	June 30
do B q	40c	July 20	June 30
Producers Royalty stock q	2½%	July 15	June 30
S. O. Ohio 5½ pfd. q	$1.25	July 15	June 30
Service Stations 6% pfd. q	1½%	Aug. 1	July 15

Paid Last Week

Company and period	Amount	Date Paid
Associated Oil q	25c	June 30
British American coup. & reg. q	20c	July 2
Canadian Oil pfd. q	$2	July 1
Canfield Oil q	$1.75	June 30
do pfd $2	$1.75	June 30
Chesebrough Manufacturing q	$1	June 30
do extra	50c	June 30
Cities Service	2½c	July 1
do stock	½%	July 1
do pfd. & pref. BB	50c	July 1
do pref. B	5c	July 1
Gulf Oil Corp. q	37½c	July 1
Hickok Oil Corp. pfd. q	$1.75	July 1
Holly Oil q	25c	June 30
Humble Oil & Refining q	50c	July 1
Interstate Pet. pfd. q	50c	July 1
National Refining q	$2	July 1
North Central Texas pfd. q	$1.62½	July 1
Northern Pipe Line q	$1.50	July 1
do extra	50c	July 1
North Star Oil pfd. q	83¾c	July 2
Prairie Pipe Line q	75c	July 1
Pure Oil 8% pfd. q	$2	July 1
do 6% pfd. q	$1.50	July 1
do 5¼% pfd. q	$1.25	July 1
Service Stations, Ltd. A & B q	40c	July 2
Shell Union pfd. q	$1.37½	July 1
South Penn Oil q	25c	June 30
South West Penn P.L. q	$1	July 1
S. O. Export pfd. s.a.	$2.50	June 30
S. O. Kentucky q	40c	June 30
S. O. Ohio q	62½c	July 1
Texon Oil & Land q	25c	June 30
Tide Water Associated pfd. q	$1.50	July 1
Tide Water Oil q	15c	June 30
Valvoline Oil pfd. q	$2	July 1
West Coast Oil pfd. q	$1.50	July 6